STATE OF ILLINOIS

ILLINOIS COMMERCE COMMISSION

Rock Island Clean Line LLC	)	
	)	
Petition for an Order granting Rock Island Clean Line a Certificate of Public Convenience and Necessity pursuant to Section 8-406 of the Public Utilities Act as a Transmission Public Utility and to Construct, Operate and Maintain an Electric Transmission Line and Authorizing and Directing Rock Island Clean Line pursuant to Section 8-503 of the Public Utilities Act to Construct an Electric Transmission Line.	)	Docket No. 12-0560

REBUTTAL TESTIMONY OF

DAVID BERRY

ON BEHALF OF

ROCK ISLAND CLEAN LINE LLC

ROCK ISLAND EXHIBIT 10.14

* * * PUBLIC VERSION * * *

August 20, 2013

TABLE OF CONTENTS

I. PURPOSE AND SUMMARY OF TESTIMONY

Q. Please state your name, business address and present position.

A. My name is David Berry. I am Executive Vice President – Strategy and Finance of Clean Line Energy Partners LLC ("Clean Line"). Clean Line is the ultimate parent company of Rock Island Clean Line LLC ("Rock Island"), the Petitioner in this proceeding. My business address is 1001 McKinney Street, Suite 700, Houston, Texas 77002.

Q. Have you previously submitted prepared testimony and exhibits in this proceeding?

A. Yes, I have previously submitted (1) prepared direct testimony, dated October 10, 2012, which is identified as Rock Island Exhibit 10.0, and accompanying exhibits identified as Rock Island Exhibits 10.1 through 10.11, (2) supplemental direct testimony, dated November 27, 2012, identified as Rock Island Exhibit 10.12, and (3) additional supplemental direct testimony dated December 18, 2012, identified as Rock Island Exhibit 10.13.

Q. What is the subject matter of this rebuttal testimony?

A. I am responding to issues raised in the direct testimonies of Commonwealth Edison ("ComEd") witnesses Mr. Naumann and Ms. Lapson; Illinois Landowner Alliance ("ILA") witness Dr. Gray; and Illinois Commerce Commission ("Commission") Staff witnesses Mr. Zuraski and Mr. Kahle. I also address the affidavit submitted by Mr. Pregozen of Commission Staff.

My rebuttal testimony is organized as follows. In Sections II through VI, I address five major questions: (II) whether Rock Island can finance the Project without adverse consequences, (III) whether Rock Island's Petition is premature because Rock Island has not yet entered into certain agreements related to the Project, (IV) whether the generation connected to the Project will actually be wind farms, (V) cost-benefit analysis

for the Project, and (VI) how the Project fits in with the MISO and PJM planning processes. Section VII then responds to a few other issues raised by intervenor witnesses.

In support of my rebuttal testimony, I am presenting a total of eleven additional exhibits identified as Rock Island Exhibits 10.15 through 10.25 which were prepared under my supervision and direction.

II. WHY ROCK ISLAND CAN FINANCE THE PROJECT WITHOUT ADVERSE CONSEQUENCES

Q. How would you respond to the issues ComEd witness Ms. Lapson raises with respect to Rock Island's ability to finance the Rock Island Project?

A. Ms. Lapson observes that Rock Island's "financial resources are not currently sufficient to fund the construction of the proposed Project."[1] This should not surprise Ms. Lapson, however. As she notes in her testimony, "relevant real estate permits and rights of way" and "environmental permits" are necessary prerequisites to obtain project finance investment.[2] Clearly, a certificate of public convenience and necessity from the Illinois Commerce Commission (the "Commission") is a necessary permit to acquire right of way and determine the route of a transmission line in Illinois. Ms. Lapson is therefore criticizing Rock Island for something which, as is made clear in her own testimony, is not possible at this stage. I will return to this issue in **Section III** of this testimony, which responds to the ComEd witnesses' view that Rock Island needs to enter into several additional legal agreements, such as financing agreements, prior to receiving a certificate from the Commission.

The remainder of Ms. Lapson's testimony boils down to three main arguments. First, Ms. Lapson worries Rock Island may start construction of the Project but will not

[1] ComEd Exhibit 2.0, p. 5: lines 102-103.

[2] ComEd Exhibit 2.0, p. 9: lines 192-193.

be able to complete it.[3] Unlikely though it may be, this potential concern is resolved with a condition to Rock Island's certificate proposed by Commission Staff discussed in my additional supplemental direct testimony (Rock Island Exhibit 10.13) and in the affidavit filed by Mr. Pregozen of Commission Staff (ICC Exhibit 4.0). Second, Ms. Lapson asks Rock Island to provide more information about how it will fund development up until the point it can raise project financing. I do so below. Third, Ms. Lapson thinks Rock Island is too optimistic about its chances of raising permanent project financing. As I will explain below, her claim suffers a lack of evidentiary support, and it is at odds with the capital markets' support for transmission, typical practices in project financing, and the track record of Clean Line management in raising capital for energy infrastructure projects.

Q. What does Ms. Lapson say about how Rock Island's financing plan could cause any adverse consequences?

A. The only statement I can find in her testimony on this point is that "if the economic prospects of a project have diminished, in some cases a project may remain incomplete for a long time or be abandoned."[4] Presumably, Ms. Lapson believes that an incomplete or abandoned Project would inconvenience landowners without providing the public any benefits because it cannot provide transmission service. She further notes that an incomplete project may default on its debt because it does not generate revenue to pay principal and interest to lenders.[5] Nowhere else in Ms. Lapson's testimony do I find any other discussion of adverse consequences to Rock Island, Rock Island's customers or the Illinois public.

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[3] ComEd Exhibit 2.0, pp. 15-16: lines 331-343.

[4] ComEd Exhibit 2.0: lines 352-354.

[5] ComEd Exhibit 2.0: lines 354-55.

Q. How can Rock Island and the Commission address this potential concern about an incomplete project?

A. In ICC Exhibit 4.0, Mr. Alan Pregozen recommends that the Commission impose an additional condition on a certificate of public convenience and necessity granted to Rock Island. He is referring to the condition I discussed in Rock Island Exhibit 10.13, and which I repeat here:

> Rock Island will not install transmission facilities for the Rock Island Clean Line Project on easement property until such time as Rock Island has obtained commitments for funds in a total amount equal to or greater than the total project cost. For the purposes of this condition:
>
> (i) "install transmission facilities" shall mean to affix permanently to the ground transmission towers or other transmission equipment, including installation of bases and footings for transmission towers, but shall not include (A) preparatory work such as surveys, soil borings, engineering and design, obtaining permits and other approvals from governmental bodies, acquisition of options and easements for right-of-way, and ordering of equipment and materials, and (B) site preparation work and procurement and installation of equipment and facilities on property owned in fee by Rock Island including the converter station sites;
>
> (ii) "easement property" shall mean property on which Rock Island has acquired an easement to install transmission facilities;
>
> (iii) "has obtained commitments for funds" shall mean (A) for loans and other debt commitments, that Rock Island has entered into a loan agreement(s) with a lender(s) and has received the loan funds or has the right to draw down the loan funds on a schedule that is consistent with the need for funds to complete the Project, and (B) for equity, that Rock Island or its parent company has received the funds from the equity investors or that the equity investors have entered into a commitment to provide funds on a schedule that is consistent with the need for funds to complete the Project; and
>
> (iv) "total project cost" shall mean the total estimated remaining cost, at the time that Rock Island is prepared to begin to install transmission facilities, for the following Project activities: engineering, manufacturing and installation of converter stations; transmission line engineering; transmission towers; conductor; construction labor necessary to complete the Project; right of way acquisition costs; and other costs necessary to complete the Project. For reference, the total estimated project cost as of November 1, 2012 is $2.0 billion.
>
> To allow the Commission to verify its compliance with this condition, Rock Island shall submit the following documents to the Director of the Financial Analysis Division and the Director of the Public Safety & Reliability Division at such time as Rock Island is prepared to begin to install transmission facilities:

a) On a confidential basis, equity and loan or other debt financing agreements and commitments entered into or obtained by Rock Island or its parent company for the purpose of funding the Rock Island Clean Line Project that, in the aggregate, provide commitments for funds for the total project cost;

b) An attestation certified by an officer of Rock Island that Rock Island has not, prior to the date of the attestation, installed transmission facilities on easement property; or a notification that such installation is scheduled to begin on a specified date;

c) A statement of the total project cost, broken out by the components listed in the definition of "total project cost," above, and certified by an officer of Rock Island, along with a reconciliation of the total project cost in the statement to the total project cost as of November 1, 2012 of $2.0 billion; and

d) A reconciliation statement, certified by an officer of Rock Island, showing that the agreements and commitments for funds provided in (a) are equal to or greater than the total project cost provided in (c).

Rock Island agrees with Mr. Pregozen's recommendation and accepts the condition. As Mr. Pregozen states, the condition will "ensure Rock Island does not begin construction of the Project without sufficient funding to complete it."[6] The condition protects the Illinois public from the potential, though highly unlikely, risk that Rock Island begins construction of the Project without having the financial resources to complete it. Further, the condition resolves all the "uncertainties" about the Project raised by the ComEd witnesses, because, as I will discuss in this testimony, all of ComEd's concerns about the Project's transmission capacity agreements and interconnection agreements must be resolved before Rock Island can secure financing to construct the Project, satisfy the condition, and proceed with construction.

Q. Does the condition recommended by Mr. Pregozen address Ms. Lapson's concern about a partially completed project?

[6] ICC Exhibit 4.0.

A. Yes. Mr. Pregozen's recommended condition requires that Rock Island demonstrate to the Commission that it has sufficient capital raised to complete the Project before Rock Island even begins the permanent installation of facilities. Not a single transmission structure can be affixed to the land under Rock Island's easements until Rock Island demonstrates to the Commission that it has sufficient commitments for equity and debt financing to complete construction of the Project. Under the condition, Rock Island must file with the Commission its financing agreements and a statement of Project cost certified by a Rock Island officer. This allows the Commission to monitor and ensure Rock Island's compliance with the condition.

Q. Even if the Commission did not adopt the condition Mr. Pregozen recommends, is it likely that Rock Island can raise enough money to start constructing the Project but not enough money to finish it?

A. No, it is extremely unlikely. In her testimony, Ms. Lapson notes that debt investors want to see sufficient equity commitments in place before they invest in a Project.[7] I agree with her. Project finance investors will not advance any money to a project until there is a binding agreement in place for the capital necessary to complete the project. As Ms. Lapson observes, an incomplete Project is at risk of defaulting on its debt.[8] Consequently, project lenders avoid investing in a project unless they can determine the project has a high likelihood of being completed. Agreements and commitments to provide debt and equity financing for construction of a project on a project-financed basis typically provide that the funds will not be released unless and until the project owner demonstrates to the satisfaction of the investors that the owner has sufficient financing commitments for capital to cover the entire cost of construction. Perhaps because of this

[7] ComEd Exhibit 2.0: line 198.

[8] ComEd Exhibit 2.0: lines 354-355.

level of discipline, Ms. Lapson cannot provide a relevant example of an analogous project failing to be completed—she just asserts the theoretical possibility. In all reasonable likelihood, Rock Island would comply with the terms of Mr. Pregozen's recommended condition even if the condition were not imposed by the Commission, since the realities of the capital marketplace necessitate our compliance.

Q. Would Rock Island's transmission customers be harmed if they sign capacity contracts with Rock Island, but then Rock Island cannot raise the money to construct the Project?

A. No. Project subscribers will not have to pay for transmission service on the Project until the Project is completed, and electricity is actually transmitted. If the Project never proceeds to construction, Rock Island's customers never have to pay for service.

Rock Island's customers will also not have to make major capital commitments until they are certain the Project can be constructed. Wind farms typically only take six to twelve months to construct, while the Project will take at least two years to construct. So wind farm developers can see whether the Project starts construction before they make major capital investments in their sites. And if Rock Island starts constructing the Project, Mr. Pregozen's recommended condition, together with investors' due diligence around the schedule for Project completion, make it certain that Rock Island can complete the Project so its transmission customers can take service.

Q. How will Rock Island fund the development of the Project up until the point that it can raise project financing for the construction of the Project?

A. Rock Island's development is funded by its parent company, Clean Line. Clean Line is funded by its primary investors, ZAM Ventures LP and National Grid USA. As I noted in my supplemental direct testimony, Rock Island Exhibit 10.12, National Grid USA has committed to invest $40 million in Clean Line. Clean Line will use this money, along

with the funds invested by ZAM Ventures LP and Clean Line's other investors, to fund the development of Rock Island and it other projects.

Q. **In her testimony, Ms. Lapson asserts that Rock Island has only spent [***CONFIDENTIAL [redacted] END CONFIDENTIAL***] on development activities and associated fixed assets for the Project as of December 31, 2012.[9] Is that correct?**

A. No, it is not. As of December 31, 2012, Rock Island had spent [***CONFIDENTIAL [redacted] END CONFIDENTIAL***] on development of the Project, including both amounts paid to third parties and the costs of Clean Line employees working on behalf of the Project. The lower figure cited by Ms. Lapson is Rock Island's current total equity balance, while the higher number I give appears in Rock Island's balance sheet in the equity account called "Donations received from stockholders." (ComEd Exhibit 2.02 Confidential) Because Rock Island has not capitalized many expenditures associated with the Project as an asset for accounting purposes, the total equity balance referenced by Ms. Lapson does not reflect the full investment in Rock Island. The higher amount I note above includes costs Rock Island has expensed instead of capitalized for accounting purposes.

Q. **In her testimony, Ms. Lapson speculates that part of National Grid USA's investment of $40 million in Clean Line "went directly to the original equity members to reduce their equity contributions or provide them with a development profit."[10] Is that correct?**

[9] ComEd Exhibit 2.0: lines 121-122.

[10] ComEd Exhibit 2.0: lines 154-156.

A. No, it is not correct. All of National Grid's $40 million investment will be used to advance the development of Clean Line's transmission projects, including the Rock Island Project.

Q. Are there any conditions on National Grid USA's $40 million investment in Clean Line?

A. Yes, but they are very limited. As of August 20, 2013, National Grid USA has funded $12.5 million of its $40 million commitment. Clean Line can draw the remaining commitment subject to four limited conditions precedent: (1) that Clean Line can make basic corporate representations and warranties, (2) that the parties have complied with their obligations under the relevant agreement, (3) that no court or other legal body has issued an injunction, writ or restraining order against National Grid USA's investment, and (4) that a Clean Line officer certifies to National Grid USA that the prior three conditions are true. These conditions precedent are very typical requirement of equity funding agreements in my experience, and their limited nature reflects the fact that National Grid USA's commitment to invest $40 million in Clean Line is strong and firm, and is not highly contingent.

Q. How will Clean Line decide how much of National Grid USA's $40 million investment to spend on Rock Island?

A. That decision will be made by Clean Line's Board of Directors. However, in my experience, the fact that a project has obtained the necessary permits, or the certainty that the project can obtain the necessary permits, together with the soundness of a project's business case, are the most important factors in determining how much money the Board of Directors allocates to a project.

Q. Can Clean Line raise additional development funding beyond the $40 million committed by National Grid?

A. Yes, it is very likely. To date, Clean Line has raised a total of [***CONFIDENTIAL [redacted] END CONFIDENTIAL***] in development commitments. To the best of my knowledge, this is the largest investment in the development of merchant transmission lines in the United States. Clean Line and its team have raised significant development capital to advance Clean Line's transmission projects, including the Rock Island Project. As Rock Island and Clean Line's other projects achieve additional development milestones, such as the Commission approval which is the subject of this proceeding, it will be easier, not harder, to raise more development capital. Clean Line's agreements with ZAM Ventures LP and National Grid USA provide the opportunity for them to make additional development investments in Clean Line, which Clean Line can then use to advance Rock Island and its other projects.

Q. Does the Clean Line management team have experience in raising permanent project financing?

A. Yes, we do. I have worked on project finance transactions for wind farms totaling more than $2 billion and led the majority of these deals. Ms. Jayshree Desai, another member of our management team, was Chief Financial Officer of Horizon Wind Energy where she oversaw several billions of dollars of capital raises for wind farm projects, including both project finance transactions and a public offering. Mr. Cary Kottler, our General Counsel, worked for the Vinson & Elkins law firm on energy project finance transactions as well as corporate financings. Other members of our management team, including Clean Line President Michael Skelly, also have extensive experience completing successful project financings for wind farms and other energy infrastructure projects. Rock Island Exhibit 10.15 describes in more detail the project finance and general financing experience of the Clean Line and Rock Island team members. Rock Island's

management team knows how to develop an energy project so that it can meet the requirements of equity investors and lenders.

Q. Are transmission lines like the Project attractive to investors?

Yes. Stable, contracted infrastructure assets like the Rock Island Clean Line are a desired asset class among investors. In fact, in testimony she recently filed at the FERC on behalf of a group of transmission owners, Ms. Lapson acknowledged that "Since 2009, electric transmission investment has come to be viewed favorably in the utility investment community."[11] In Rock Island Exhibit 10.16 (which is an updated version of Rock Island Exhibit 10.7), I list more than $7.2 billion of publicly disclosed project finance investments in U.S. transmission projects.

In her testimony, Ms. Lapson objects that some of these transactions rely on a "rate-based" model where costs are recovered through a socialized transmission tariff. She states that, because Rock Island will instead rely on bilateral payments from shippers, Rock Island's debt will be a riskier investment.[12] Ms. Lapson's criticism ignores the fact that Rock Island, like any other transmission provider and also like natural gas pipelines, will set creditworthiness standards for its customers. Any of Rock Island's transmission capacity customers who do not have established credit ratings or meet designated financial metrics will be required to post additional credit support in the form of a parent guarantee, letter of credit or cash collateral. Similar credit support is required by both

[11] Testimony of Ellen Lapson on behalf of PEPCO Holdings, Inc., Operating Affiliates Potomac Electric Power Company, Delmarva Power & Light Company, and Atlantic City Electric Company, Before the Federal Energy Regulatory Commission, *Delaware Division of the Public Advocate, et al. v. Baltimore Gas and Electric Company, et al.*, Docket No. EL13-48-000 (April 3, 2013) ("Lapson PEPCO Testimony"), at p. 22, lines 8-9.

[12] ComEd Exhibit 2.0, p. 13: lines 274-277.

MISO and PJM to purchase long-term transmission service, so this is a requirement that generators and other wholesale market participants fully expect.[13]

Ms. Lapson also objects that the precedent transactions listed in Exhibit 10.16 were smaller than Rock Island. Though Rock Island would be the largest merchant transmission line financed to date in the U.S., I understand that several of the prior merchant transmission lines have seen their financing oversubscribed, meaning the demand for investment securities exceeded the supply. This means that their financings could have increased in size on the same terms. Further, it is clear that the project finance market has sufficient liquidity to absorb a $2 billion project. For example, in July 2013, Cheniere Energy Partners completed a total of $8.9 billion of debt financing for the Sabine Pass Liquefaction liquefied natural gas (LNG) facility, using a special purpose project company as the borrower.

The reason for the attractiveness of U.S.-based transmission lines to investors comes down to the fact that they offer a reasonable return to investors along with an attractive risk profile. In her testimony, Ms. Lapson cited and attached as exhibits the "risk factors" used by the three main rating agencies in rating and evaluating project finance debt issuances. Most project finance debt is issued directly by banks and other lenders who perform their own due diligence and credit analysis, rather than hiring a rating agency to do this for them. Nevertheless, the agencies' risk factors provide a useful framework for evaluating the Project's favorable risk profile to investors. Though the discussion below focuses on the five factors used by Standard and Poor's (ComEd Exhibit 2.06), the factors are similar across all three agencies.

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[13] See Attachment Q to the PJM Tariff, available at http://www.pjm.com/~/media/documents/agreements/tariff.ashx (last accessed July 27, 2013); Attachment L to the MISO Tariff, available at https://www.misoenergy.org/Library/Repository/Tariff%20Documents/Attachment%20L.pdf (last accessed July 27, 2013).

i) Credit enhancement: Lenders look favorably on debt issuances guaranteed by or otherwise supported by multilateral agencies such as the International Finance Corporation or a national export bank. Rock Island is not likely to benefit from any such guarantees since it is a U.S. project with mostly domestic labor and manufacturing. At the same time, however, Rock Island does not carry additional risks of being a project in a foreign country, especially the risks of being dependent on a foreign government concession. I discuss this point in greater detail below.

ii) Project-level risk. Project finance lenders will want to establish that the borrower has in place the necessary revenue agreements, construction agreements and other arrangements. In the case of Rock Island, the relevant revenue agreements will be long-term transmission capacity agreements with customers such as wind generators, wind power purchasers and other wholesale market participants. As I mentioned above, customers will have to demonstrate to Rock Island that they possess the appropriate credit ratings or financial metrics, and if they are unable to do so, post additional credit support. This will be a requirement not only of Rock Island but of the Project's investors and lenders. Further, this credit requirement will not be unusual for transmission customers; as I noted earlier, credit standards for transmission service purchasers are incorporated into the MISO and PJM tariffs. (Presumably, the MISO and PJM tariffs are the sort of socialized cost recovery Ms. Lapson has in mind as a lesser risk to transmission investors). With respect to other project-level risk factors cited in the rating agency criteria, unlike many energy projects' revenues, Rock Island's revenue will not be subject to fuel price risk (as would a merchant power plant's revenues) or volumetric risk (as would a wind farm's revenues), since

shippers on the transmission line must pay for reserved capacity regardless of the utilization.

Transmission lines are also very long-lived assets, with a useful life of 40 years or more. When the life of an asset greatly exceeds the proposed term of the debt, it increases the certainty that the debt can be repaid. The still significant value of the transmission line at the end of the debt term can be used to repay any outstanding debt, or as collateral to refinance the debt on more attractive terms.

Another aspect of evaluating project risk emphasized by Standard & Poor's is "competitive market exposure." If there are many viable substitutes for the service provided by the borrower, it increases the risk of customer default or renegotiation of contract terms. In the case of the Rock Island Project, Rock Island will provide the transmission service necessary to connect more than 4,000 MW of wind farms with a market for their output. As I discussed in my direct testimony, the existing grid in Northwest Iowa is not strong enough to support this level of wind farm interconnection. Therefore, wind farms that buy service from Rock Island will likely not have any other existing alternative to move their power to market in Northern Illinois and PJM, and consequently will depend on Rock Island's service to realize revenue from their generation investments. This creates an extremely strong incentive for wind farms to comply with their transmission service agreements with Rock Island.

As described in the direct testimony of Rock Island witness Dr. Wayne Galli and in the rebuttal testimony of Michael Skelly, Rock Island will enter into Engineering, Procurement and Construction ("EPC") contracts with Kiewit and Siemens, two highly reputable and established companies which have constructed large infrastructure projects, for the construction of the transmission line and the

construction and installation of the converter stations, respectively. These EPC contracts will provide for a fixed construction price as well as guaranteed achievement of project milestones, including project completion.

Finally, the Project has no major technological risk, since HVDC is a proven technology that has been successfully implemented dozens of times in North America and hundreds of times around the world. The extensive track record of HVDC is discussed in the direct testimony of Dr. Wayne Galli, and has not been challenged by the Staff or intervenor witnesses.

iii) Transactional structure: Project finance lenders prefer the borrower to be structured as a special purpose entity ("SPE"), an entity with no outside commitments or agreements that could be a source of liability. The absence of other liabilities improves the risk profile for lenders and allows them to focus on the quality of the underlying revenue. As Standard and Poor's states, "[w]hen projects are duly structured as and remain SPEs, we can have more confidence in project performance throughout the debt tenor."[14] Rock Island is and will remain an SPE that has no other business activity besides the development, construction and operations of the Project.

iv) Sovereign risk and business and legal institutional development risk: These two risk factors are best dealt with together. The rating agency risk factor and rating criteria in Ms. Lapson's exhibits are intended to apply to project-financed projects anywhere in the world, including developing countries, countries without well-developed legal and financial institutions, countries in which the stability and reliability of the host government may be subject to question, and countries that may not have a well-developed rule of law. These are all risk factors cited in the

[14] ComEd Exhibit 2.06, p. 8.

rating agency documents. Considered against the spectrum of project locations that the rating agency criteria have been developed to evaluate, the Rock Island Project will be located in a highly stable environment. It is generally acknowledged that the United States provides one of the safest investment environments in the world. Further, because Rock Island's revenue will come from negotiated contracts, not a tariff that is subject to governmental approval and revision, there is a low risk that governmental entities could lower Rock Island's rates due to changes in the economic or political environment, or simply for arbitrary reasons.

Q. Does Ms. Lapson's testimony offer any evidence that Rock Island's financing plan is unlikely to succeed?

A. Ms. Lapson does not provide any evidence that Rock Island is unlikely to achieve the development milestones necessary to raise project finance. She does not offer any data or statistics about the number of projects that have obtained the necessary development milestones that cannot obtain appropriate financing. She asserts that not all projects that obtain project financing are successfully completed, but she does not provide even one example of a failed transmission project financing or any relevant statistics.

In the absence of evidence, Ms. Lapson turns to analogy, but she misses the mark. Ms. Lapson likens Rock Island's plans to raise project finance to an aspiring violinist wanting to join the Chicago Symphony. Ms. Lapson evidently believes that project financing is some sort of rare talent possessed by a few phenomenal individuals. If it were as difficult to raise project financing as it is to play violin in the Chicago symphony, our energy infrastructure would be dilapidated indeed. In my experience, raising project finance is actually simpler than Ms. Lapson suggests. The developer needs to have the necessary regulatory approvals, permits, rights-of-way, construction contracts, and

revenue agreements in place, and the revenue agreements must be sufficiently profitable to allow investors an adequate risk-adjusted rate of return compared to other opportunities. If a developer has not achieved the requisite milestones and cannot offer investors a reasonable return, the developer is likely to fail in raising capital. If the developer has achieved the necessary milestones and can offer a market-competitive return, then the developer is very likely to succeed. Along with other members of the Clean Line management team, I believe I understand what a project developer must do to position a project to be successfully financed, and that we have demonstrated to the Commission that Rock Island has reasonable plans in place to meet the requisite milestones of project development.

Q. Will Rock Island provide ongoing reports to the Commission regarding the Project's finances?

A. Yes. As already stated by Commission Staff witness Daniel Kahle, I can confirm that Rock Island agrees that it will submit the annual financial reports required by ILCC Form 21 and 83 Ill. Adm. Code 210.[15] Rock Island has asked the Commission for permission to maintain our books and records at our corporate headquarters in Houston, Texas. In return, Rock Island will reimburse Commission Staff for any necessary travel to inspect these books and records.[16] Mr. Kahle recommends that the Commission accept Rock Island's proposal in this regard.[17]

Q. Notwithstanding the somewhat cautionary tone of her direct testimony in this proceeding, do you believe that Ms. Lapson concurs with the overall objectives of the Rock Island Project?

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[15] ICC Exhibit 2.0: lines 31-34.

[16] See Rock Island Exhibit 10.0: lines 926-956.

[17] ICC Exhibit 2.0: lines 47-50.

A. Yes. For example, in the Lapson PEPCO Testimony, Ms. Lapson testified that electric transmission investment serves the public interest in that:

> Electric transmission investment benefits all consumers and the public generally in the following ways: (1) Improving system reliability; (2) Promoting national security; (3) Allowing environmentally beneficial renewable power resources to be connected to load; (4) Reducing congestion costs; and (5) Increasing competition in wholesale electricity markets.[18]

She also pointed out that:

> It is well recognized that one of the principal obstacles to the development and efficient utilization of renewable resources such as wind and central station solar is the lack of transmission to get the output of the resources to market. If transmission is inadequate, renewable developers cannot find buyers for their power and are unable to finance their projects.[19]

These points are all consistent with Rock Island's presentation in this proceeding. In Rock Island Exhibit 10.17, I have provided additional excerpts from the Lapson PEPCO Testimony.[20]

Q. Based on your direct and rebuttal testimonies, please summarize why Rock Island is capable of financing the Project without adverse consequences to Rock Island, Rock Island's customers and the Illinois public.

A. Rock Island has an experienced management team and a credible financing plan to access capital markets with an established history of supporting transmission. Rock Island's customers will not have to pay for transmission service unless the Project can be financed, and Rock Island's customers who are wind generators will not have to make major capital commitments until they are sure the Project will be a reality. Finally, Mr. Pregozen's recommended condition, which Rock Island accepts, protects the Illinois

[18] Lapson PEPCO Testimony, p. 8: lines 7-14.

[19] Lapson PEPCO Testimony, p. 15: lines 4-8.

[20] Ms. Lapson has submitted similar testimony in another recent case at FERC on behalf of a group of New England Transmission owners. Testimony of Ellen Lapson on behalf of the New England Transmission Owners, Before the Federal Energy Regulatory Commission, *Martha Coakley, Massachusetts Attorney General et al. v. Bangor Hydro-Electric Co., et al.*, Docket No. EL-11-66-001 (Nov. 20, 2012).

454 public from the potential, though highly unlikely, risk that the Project is not completed
455 due to an inability to raise all the necessary financing.

456 **III. WHY ADDITIONAL THIRD-PARTY AGREEMENTS SHOULD NOT BE**
457 **REQUIRED IN ORDER FOR THE COMMISSION TO ISSUE THE CERTIFICATE**

458 **Q. Why does ComEd believe that Rock Island's application for a certificate is**
459 **premature and should be stayed or denied without prejudice?**

460 A. ComEd witnesses Ms. Lapson and Mr. Naumann cite three third-party agreements which
461 they evidently believe Rock Island should enter into before it can receive a certificate
462 from the Commission: definitive financing agreements, capacity agreements with
463 shippers, and interconnection agreements with PJM and MISO, which are the
464 culmination of studies determining what, if any, network upgrades are needed to
465 interconnect the Project reliably.[21] There is no disagreement that Rock Island will need
466 to enter into these agreements. Before Rock Island begins construction of the Project, it
467 will need (1) capacity contracts with shippers sufficient to allow investors to recover the
468 costs of the Project, (2) financing with specific investors at specified terms, and (3)
469 signed interconnection agreements with PJM and MISO that set forth any transmission
470 upgrades determined by the studies to be necessary to maintain the reliability of the
471 system. In addition, Rock Island and ComEd appear to agree that the Project needs a
472 certificate of public convenience and necessity from the Illinois Commerce Commission.
473 Rock Island and ComEd agree broadly about what Rock Island needs to do before
474 constructing the Project, but Rock Island and ComEd disagree about the order in which
475 Rock Island should be expected to accomplish the necessary steps.

476 **Q. Does ILA also believe that Rock Island's application is premature because Rock**
477 **Island has not yet signed transmission capacity contracts?**

[21] ComEd Exhibit 1.0 REV: lines 226-237, 249-252; ComEd Exhibit 2.0, p. 6: lines 125-126.

A. In his direct testimony, ILA witness Dr. Jeffrey Gray initially states that Rock Island can only establish need for the Project once it has entered into capacity contracts. (As I showed in my direct testimony and as I discuss later in this testimony, need for the Project can be demonstrated without having specific signed capacity contracts.) However, Dr. Gray also acknowledges that there are difficulties in obtaining capacity contracts before the Commission grants Rock Island the necessary approvals to acquire land for and build the Project. He does not appear to disagree with Rock Island's position that regulatory approvals must precede contracts. In fact, Dr. Gray claims that Rock Island could overcome what he calls the "chicken and egg" problem if it can show Rock Island is the preferred alternative to MISO Multi-Value Projects ("MVP Projects").[22] I will discuss the problem with Dr. Gray's comparison with the MISO MVP Projects in **Section VI.** Setting the MISO MVP projects aside for now, if it is actually Dr. Gray's position that Rock Island must sign capacity contracts first, and only then receive a certificate from the Commission, then my response to his criticism is the same as to ComEd, discussed in the remainder of this section of my testimony.

Q. Why is ComEd's proposal to delay consideration and issuance of a certificate of public convenience and necessity for the Rock Island Project inappropriate and unacceptable?

A. As I describe in more detail below, (1) ComEd's proposed sequence of agreements is impossible, both for the Project and likely for any other merchant transmission line, (2) Rock Island, not the Illinois public, bears the risk that these third party agreements cannot be obtained, and (3) Rock Island has presented sufficient information in this proceeding regarding the topics of the three agreements referenced above so that, for purposes of issuing a certificate, the Commission can evaluate the Project on its merits.

[22] ILA Exhibit 7.0, pp.7-9

A. THE IMPOSSIBILITY OF COMED'S PROPOSED SEQUENCE

Q. Is it possible to develop the Project in the order the ComEd witnesses suggests?

A. No. The ComEd witnesses would have Rock Island sign several additional project-related agreements prior to being able to receive a certificate. Yet due to the demands of counterparties to these agreements, among other reasons, Rock Island simply cannot develop the Project in the order the ComEd witnesses would wish. The ComEd witnesses' proposed sequence would make the Project, and likely any other merchant transmission line, impossible to develop in the State of Illinois.

Q. Should Rock Island be required to have the necessary financing to construct the Project in place prior to a certificate order being issued?

A. No. Even if it were possible, this would be a wasteful and inefficient use of capital, but more importantly, it is not possible. As Ms. Lapson herself describes in her testimony, obtaining the permits for an energy project is a precondition for raising project finance. The rating agencies Ms. Lapson cites as authorities on project finance will perform due diligence on that requirement. Moody's states it will "assess whether or not the project has acquired all the necessary land, and received all its permits, including environmental permits;"[23] Fitch "will seek confirmation that all relevant licenses, permits, or regulated status have been obtained and are valid under all relevant laws."[24]

Many of the other preconditions for project finance, such as a binding construction contract and the ability to acquire easements, also require that the Project has received approval for a specific route, which would be one outcome of this proceeding. While it may be possible to obtain a conditional financing commitment in some circumstances, as I describe in my direct testimony, this option is not feasible for

[23] ComEd Exhibit 2.03, p. 26.

[24] ComEd Exhibit 2.04, p. 6.

Rock Island at this point due to the expense of tying up capital resources and the uncertainty around regulatory timelines.[25] Ms. Lapson's observation that Rock Island has not secured financing commitments to construct the Project prior to seeking a certificate of public convenience and necessity, while true, is unremarkable. She is just saying that Rock Island has not done something which, by her own account, is impossible.

Q. Why is it unreasonable to expect Rock Island to sign capacity contracts before receiving a certificate of public convenience and necessity?

A. Negotiated capacity contracts, or transmission service agreements, require three basic prerequisites. First, the transmission developer, in this case Rock Island, must know how much it will cost to build the Project within a narrow range of certainty. Because a merchant transmission developer does not have a captive customer rate base to which it can charge any prudently incurred costs, the developer must be very confident that the cost of service negotiated with capacity subscribers is sufficient to recover, and earn a reasonable return on, the capital cost of the project. Yet a developer cannot have a firm view of Project costs without knowing the route along which the developer is authorized to build or the structures it is authorized to install, which are two things the Commission will decide in this proceeding. A final cost estimate also requires survey access to the properties the route will cross, detailed geological samples, and final locations of structures. Only with a certificate that allows survey access (which in Illinois, is the certificate requested in this proceeding[26]) and certainty on the route is a binding cost estimate possible. Prior to the Commission's issuance of a certificate, the developer lacks critical information needed to price its product.

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[25] Rock Island Exhibit 10.0: lines 754-774.

[26] Section 8-510 of the Public Utilities Act, 220 ILCS 5/8-510.

Second, in order to secure transmission contracts, the transmission developer needs a firm view on the schedule for its project's operation. The buyer of transmission service needs to know when the service will be available for purchase, and will likely expect a guaranteed date at which the transmission line must be in service. Once Rock Island obtains its certificates for the Project, it can be expected to take at least two years to construct the Project. However, Rock Island cannot commence construction until it obtains a certificate from the Commission and complies with applicable conditions in the certificate. Until Rock Island obtains the required approvals from the Commission in order to build the Project, it cannot commit to an in-service date, even one several years in the future.

Third, in order to secure financing through transmission contracts, the transmission developer and the buyer must know that it is possible for the developer to build the Project. Rock Island cannot build the Project in the State of Illinois without an approval from the Commission. Without this approval, any contract would not really be a firm commitment for Rock Island to sell transmission service. It would be an option agreement for Rock Island to provide service in the event it can obtain the necessary approval from the Commission.

In light of these three prerequisites to transmission capacity contracts, if the Commission were to require Rock Island to have signed transmission capacity contracts before reviewing the Petition and granting a certificate, the contracts would be option-like agreements for Rock Island to provide transmission service at an uncertain price at an uncertain date over three years in the future. Because of these uncertainties, capacity contracts cannot be obtained prior to receiving a certificate from the Commission, and even if they could be obtained, they would have so many caveats and conditions that they would really just be statements of interest.

573 **Q. Is the ComEd witnesses' proposed sequence conducive to an effectively competitive**
574 **market?**

575 A. No. Even if capacity contracts could be obtained prior to receipt of a certificate, and I do
576 not think they can be, the ComEd witnesses' (and potentially ILA witness Dr. Gray's)
577 proposed order of operations is incompatible with a functioning and competitive market
578 for transmission service. At the most basic level, an effectively competitive market must
579 provide buyers of a good or service, in this case transmission rights, the choice of
580 multiple options. The buyers must be able to compare prices of the product with other
581 choices. The ComEd witnesses (and potentially ILA) are saying that the Rock Island
582 Project and presumably any other merchant transmission line must sell its capacity before
583 it obtains permits and therefore before a firm capacity price can be set. Effectively, this
584 would require buyers to choose a transmission option before they know how much the
585 options cost and if they can actually be built. This result deprives transmission customers
586 of the benefit of competition. Further, because under the ComEd approach transmission
587 developers would need a base of contracted customers in order to obtain a certificate,
588 those few transmission developers who obtain a certificate would have a great deal of
589 pricing power relative to new transmission customers, reducing competition.

590 **Q. Why would it not work to require Rock Island to sign interconnection agreements**
591 **with PJM and MISO prior to the Commission considering the merits of the**
592 **Petition?**

593 A. The PJM reliability study process is set up so that developers of merchant transmission
594 lines must attain certain milestones in order to maintain their interconnection queue
595 positions and sign an interconnection agreement. These requirements make sense
596 because it is not in anyone's interest for projects that only exist on paper and which
597 developers are not advancing to clog up the interconnection queue. Of particular

598 relevance to this case, PJM's Open Access Transmission Tariff requires that merchant
599 transmission lines have applicable state permits in place prior to signing an
600 interconnection agreement. At the completion of the facilities study, the last of three
601 technical studies performed by PJM,[27] the interconnection applicant (in this case Rock
602 Island) has 60 days to demonstrate it has achieved several key milestones, including
603 "[a]cquisition of any necessary local, county, and state site permits."[28] If the interconnect
604 applicant has not met these milestones, it loses the right to sign an interconnection
605 agreement, and must then start the entire interconnection study process anew. PJM's
606 guidance does acknowledge that "[m]ilestone dates may be extended by the PJM in the
607 event of delays not caused by the Interconnection Customer, such as unforeseen
608 regulatory or construction delays." However, there is no assurance PJM will in fact grant
609 Rock Island such an extension to obtain a certificate from the Commission. Further, the
610 notion of a developer experiencing an "unforeseen" regulatory delay necessitates that the
611 developer is in fact already trying to obtain the necessary permit. PJM clearly
612 contemplates that merchant transmission lines will pursue regulatory permits prior to (or
613 at the very least contemporaneously with) completing the required interconnection
614 studies.

615 If the Commission requires merchant transmission developers to finalize and sign
616 their RTO interconnection agreements prior to receiving certificates, while PJM requires
617 the same developers to have their certificates prior to signing interconnection agreements,
618 then no merchant transmission lines can be built. Only incumbent utilities with captive

[27] Dr. Galli discusses the three required technical studies in detail in both his direct testimony and rebuttal testimony.

[28] PJM Manual 14A, Revision 14, p. 23. Available at https://pjm.com/~/media/documents/manuals/m14a.ashx (last accessed on July 26, 2013).

ratepayers and guaranteed cost recovery would be able to compete to sell transmission service.

Q. If the Commission grants Rock Island a certificate prior to the signing of interconnection agreements, can ComEd still provide input into the Project's interconnection studies conducted by MISO and PJM?

A. Yes. In the PJM interconnection studies, PJM calls upon ComEd to provide data and analyses used in the studies. Further, ComEd is given the opportunity by PJM to provide input and comments on the system impact and stability study inputs, assumptions and results, including expressing its position to PJM as to what system upgrades should be required or preferred for the Rock Island interconnection. In fact, before PJM released the re-tooled System Impact Study dated August 9, 2013 to Rock Island, PJM first provided the study to ComEd for review and comment. ComEd therefore has ample opportunity to raise any reliability concerns it has with respect to the interconnection of the Rock Island Project to the PJM grid, and to see that those concerns are resolved, within the context of the PJM interconnection and System Impact Study processes. ComEd also has the opportunity to be involved in the MISO No-Harm Study and in fact participated in the kick-off meeting for the MISO study held on July 11, 2013.

PJM and MISO, not the Illinois Commerce Commission, are the right venue to address ComEd's concerns about the Project's interconnection. These RTOs must conduct the relevant studies in a way that assures reliability of the grid. ComEd and Rock Island may not agree on every aspect of the studies, but both can certainly participate in the process. The RTO's, operating under their tariffs, can resolve any disagreements.

642 B. ROCK ISLAND, NOT THE ILLINOIS PUBLIC, BEARS THE RISK OF ACHIEVING FUTURE
643 MILESTONES

644 **Q. If Rock Island cannot enter into definitive financing, capacity and interconnection**
645 **agreements, who bears that risk?**

646 A. The ComEd witnesses imply that if the Commission issues a certificate for the Project
647 now, the Illinois public will somehow take the risk that Rock Island has not yet signed
648 capacity contracts, interconnection agreements and financing agreements which Rock
649 Island fully intends to sign, and which it must sign at a later date in order to proceed to
650 the construction phase of the Project. However, it is Rock Island, not the public, who
651 takes the risk. As a result, delaying consideration of Rock Island's Petition as the ComEd
652 witnesses suggest does nothing to protect the public, and needlessly burdens Rock Island
653 and the consumers who would benefit from the additional competitive supply of energy,
654 capacity and renewable energy credits ("REC"s) provided by the Project.

655 **Q. Why does Rock Island bear the risk of not being able to enter into definitive project**
656 **financing agreements?**

657 A. If the Commission adopts Mr. Pregozen's recommended condition, it will protect
658 landowners from the risk that the Project could be abandoned or not completed due to
659 insufficient financing. In the unlikely event that Rock Island is never able to begin
660 construction of the Project due to insufficient financing, the only persons harmed would
661 be Rock Island's investors and persons who otherwise would have benefitted from the
662 Project. But it certainly would not make sense to deny Rock Island's request for a
663 certificate because there is some minor chance Rock Island cannot deliver the promised
664 benefits. Without issuance of a certificate, the chance of the benefits is zero.

665 **Q. Would granting Rock Island's Petition at this time create any financial liabilities for**
666 **Illinois ratepayers, or expose ratepayers to higher than expected financing costs for**
667 **the Project?**

A. No, it would not. Rock Island is not asking to recover costs from Illinois ratepayers. The purchasers of Rock Island's transmission capacity will be generators, wholesale power purchasers, other wholesale market participants, or retail purchasers who decide specifically to contract for power and for the shipment of power via the Project. These purchasers will bear all the risk that Rock Island's delivered energy is competitive with other alternatives. If Rock Island's cost of capital is higher than expected, it will increase the cost of Rock Island's transmission service. If that cost becomes too high relative to alternatives, no generator or other market participant is bound to enter into contracts to purchase service. In this way, Rock Island is fundamentally different from a cost-of-service-based transmission utility with captive customers. Captive ratepayers bear the risk that a cost-based utility faces higher than expected capital costs or financing costs. In Rock Island's model, it is Rock Island, not the general public or ratepayers, which bears the risk of higher than expected capital or financing costs.

Q. Why does Rock Island bear the risk of not being able to obtain the necessary transmission capacity contracts?

A. Rock Island will not be able to proceed with the construction of the Project in the absence of sufficient transmission capacity contracts to support the financing necessary to construct the Project. Sufficient transmission service contracts with creditworthy counterparties will be a required condition of project lenders. If Rock Island cannot obtain the necessary transmission capacity contracts, it will not be able to proceed with the Project, and Rock Island and its shareholders will lose their investment in development of the Project. The only way that the Illinois public would be harmed if Rock Island cannot obtain the necessary transmission contracts is that the public will be deprived of the benefits of the Project. As I discuss more below, Rock Island's acceptance of the risk that the market does not support the Project in no way increases the

risk to the public of an unneeded or uneconomic project; it actually eliminates this risk since the market will not allow unneeded or uneconomic projects to proceed.

Q. **How can Rock Island provide assurances it will not allocate costs to ratepayers at a later date?**

A. Rock Island is prepared to address the concern of Commission Staff witness Richard Zuraski, who states that if Rock Island cannot obtain adequate contracts, it "would be more likely to seek FERC approval to recover its costs through a more general levy on electric market participants."[29] ComEd witness Mr. Naumann and ILA witness Dr. Gray express a similar concern.[30] While it was never Rock Island's intention to recover the costs of the Project from Illinois ratepayers, Rock Island is willing to agree formally not to recover costs in this manner without an additional approval from the Commission to do so. This commitment includes both the costs to construct the Project and the costs of the system upgrades allocated to Rock Island under the PJM and MISO planning processes. Rock Island agrees to have this commitment embodied as a condition to its certificate of public convenience and necessity.

Q. **Can you propose specific text for the condition regarding cost allocation?**

A. I would propose the following language:

> Prior to recovering any Project costs from Illinois retail ratepayers through PJM or MISO regional cost allocation, Rock Island will obtain the permission of the Illinois Commerce Commission in a new proceeding initiated by Rock Island. For the purposes of the prior sentence, any system upgrades set forth in an interconnection agreement with PJM or MISO and the costs of which are allocated to Rock Island will be considered "Project costs."

Conditioning Rock Island's certificate in this manner resolves Mr. Zuraski's, Mr. Naumann's and Dr. Gray's concerns about future cost allocation without Commission

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[29] Staff Exhibit 3.0: lines 111-115.

[30] ComEd Ex. 1.0 REV, p. 37: lines 709-719; ILA Exhibit 7.0, p. 10: lines 201-203.

review, since Rock Island would have to persuade the Commission at a later date that the Project's benefits outweigh costs to ratepayers in order to justify cost allocation. Naturally, ComEd, Commission staff and any other interested parties could participate in that future proceeding, were it to occur.

Q. **Without capacity contracts signed, how can Rock Island be confident that the benefits to consumers from high capacity factor wind farms in Iowa and the surrounding area will be realized?**

A. Rock Island will locate the western converter station in northwest Iowa because of its proximity to abundant and cost-effective wind resources. As listed on Exhibit 10.19. Rock Island is aware of eighteen developers pursuing wind farms in the Project's Resource Area. Finally, wind energy is the only viable technology with a geographic advantage in northwest Iowa relative to the Northern Illinois electricity markets that would support the business case to pay Rock Island's transmission charges to move power generated by plants situated in the Resource Area to Northern Illinois and PJM. **Section IV** provides more detail on these reasons and why it is implausible to assume any generators other than wind farms will be Rock Island's long-term subscribers.

Q. **Who bears the risk that Rock Island cannot obtain the necessary interconnection agreements with an acceptable level of system upgrades?**

A. Again, Rock Island bears this risk. Rock Island is required by law and federal regulation to sign the required interconnection agreements with PJM and MISO. If Rock Island cannot obtain these agreements, which will only be entered into upon completion of the required reliability studies and Rock Island's agreement to pay for the costs of system upgrades found necessary by the studies, then Rock Island cannot build the Project. The Illinois public is not exposed to any risk that Rock Island will interconnect the Project to the PJM or MISO network without the necessary reliability studies being completed, the

744 necessary system upgrades being determined, and the resulting interconnection
745 agreements being signed. If these studies are not completed with acceptable results, the
746 Project will not be constructed, will not be interconnected, will not flow power, and
747 consumers will not have to pay any costs.

748 **Q. Will the Project's interconnection create congestion costs for consumers, as Mr.**
749 **Naumann suggests (ComEd Exhibit 1.0 REV, lines 703-705)?**

750 A. No, I see no reason why the Rock Island Project will increase congestion costs to
751 consumers. In a day-two nodal electric market like PJM and MISO, congestion refers to a
752 difference in locational marginal prices ("LMP"), or the cost of procuring electricity at a
753 specific point on the system, between two locations. In both the PJM and MISO
754 markets, the cost of congestion is not a separate cost charged to electric ratepayers, but is
755 incorporated into the calculation of LMPs. MISO and PJM resolve congestion by
756 economically dispatching generation according to transmission constraints. It is
757 important to distinguish between congestion costs for consumers and for generators.
758 Congestion costs for consumers occur when there is not enough available generation with
759 a transmission path to serve a specific load, and therefore the price paid by a specific load
760 is high relative to the rest of the grid. Congestion costs for generators occur when there is
761 a high level of competition among generators for available transmission capacity, and the
762 price for generators is lower compared to the rest of the grid. While it may be possible
763 that adding cheap wind energy delivered by the Project may increase congestion costs for
764 some generators, Mr. Naumann's suggestion that more cheap energy supply will increase
765 congestion for consumers does not make sense. It is highly counterintuitive that injecting
766 low cost wind power on the 765 kV network near the biggest load area on ComEd's
767 system, the city of Chicago and the Chicago Metropolitan area, will increase congestion
768 costs for ComEd's customers. Simple physics and economics suggest a large amount of

power on a 765 kV line near a large electric load center will decrease congestion costs for consumers, not increase them. More cheap supply makes local prices go down, not up.

Mr. Naumann's testimony creates the impression that congestion costs have not been considered in Rock Island's analysis of the benefits of the Project. In fact, they have been considered. Rock Island has considered congestion in its analysis of consumers' cost to procure wholesale electricity. As discussed by Rock Island witness Gary Moland in his rebuttal testimony, the modeling tool he uses, PROMOD, models LMPs throughout the system and includes the effects of congestion. Mr. Moland's model results show that in all scenarios the cost of procuring electricity from the wholesale market for PJM Illinois and MISO Illinois customers decreases as a result of the Project, net of any higher congestion costs to load. Further, in all but one of the scenarios, the Project decreases congestion costs to electric customers in absolute terms, i.e., without considering offsetting benefits.

Q. Does Rock Island have any plans or ability to "shift" the costs of system upgrades resulting from its interconnection process in MISO or PJM to consumers?

A. No. Mr. Naumann's claim that "Rock Island has expressed interest in potentially challenging PJM's light load analysis which could shift costs for the network upgrades required by PJM's reliability analysis to load customers"[31] is incorrect. Rock Island has discussed with PJM whether the "light load" component of the system impact study should study the injection level of merchant transmission lines based on the generation the line enables, or based on some other factor. Rock Island has not proposed to "shift costs for the network upgrades required by PJM's reliability analysis to load customers."

As Mr. Naumann states in his testimony, interconnection customers "are responsible for the costs of all facilities and network upgrades required to maintain

[31] ComEd Exhibit 1.0 REV: lines 715-717.

793 reliability" under PJM's tariff.[32] Rock Island has no plans to lobby PJM to change this
794 fundamental principle. Any implication that Rock Island can or will make such a
795 lobbying effort is unfounded and unsubstantiated. Even if another party did make such
796 an effort, any changes would be subject to the required votes and stakeholder process, in
797 which the Commission and ComEd can participate and (presumably) oppose the change.
798 Rock Island fully acknowledges that PJM, with ComEd's input and subject to its tariff
799 and relevant FERC rules, will have the final say on what upgrades are needed. On that
800 point there is no disagreement between Rock Island and ComEd. Our only disagreement
801 is about whether the status of Rock Island's interconnection studies should preclude the
802 Commission from considering and ruling on Rock Island's Petition for a certificate.

803 C. ROCK ISLAND HAS PROVIDED EVIDENCE ON THE TOPICS OF THE ADDITIONAL
804 AGREEMENTS

805 **Q. Has Rock Island presented evidence that its financing plan is credible and viable?**
806 A. Yes. As I have recapped in **Section II** of this testimony (on some points referring to my
807 direct testimony), Rock Island has presented information about its specific plan to obtain
808 financing, the financial experience of our management team in raising project finance
809 capital, precedent transactions in financing transmission lines, the financial strength and
810 commitment of our investors, and the attractive risk profile of investing in transmission
811 lines. This information is, I believe, sufficient to conclude our financing plan is
812 reasonable and likely to succeed. Further, Mr. Pregozen's recommended condition
813 protects the Illinois public from any risks associated with raising the capital to complete
814 construction of the Project.

815 **Q. Has Rock Island presented evidence that it is likely that transmission customers will**
816 **purchase its capacity to deliver or purchase wind energy from the Resource Area?**

[32] ComEd Exhibit 1.0 REV: lines 363-364.

A. Yes, we have. In this docket, we have presented evidence that (1) there is an increasing demand for renewable energy in the PJM and MISO states due to state RPS mandates and voluntary purchases of renewable energy (Rock Island Exhibit 10.0, lines 312-395); (2) the wind resources in the Resource Area are more abundant and more cost effective than the wind resources located in the PJM states, including Illinois (Rock Island Exhibit 10.0, lines 86-221); (3) there are wind developers active in the Resource Area who will require additional transmission to sell their energy (Rock Island Exhibit 10.0, lines 222-232 and **Section IV** of this testimony); (4) high capacity factor wind energy, such as the kind delivered by the Project, is the cheapest form of renewable energy generation (Rock Island Exhibit 10.0, lines 499-511); (5) high capacity factor wind energy is cost-competitive with thermal generation (Rock Island Exhibit 10.0, lines 511-515); and (6) as environmental regulations of power plant emissions increase, wind energy is likely to become even more attractive (Rock Island Exhibit 10.0, lines 458-498). All of these factors speak to the likely demand for Rock Island's transmission service from wind generation developers in the Resource Area, and neither ComEd nor ILA has presented any evidence to dispute Rock Island's claims about these factors.

Q. In the absence of capacity contracts, how can the Commission conclude the Project addresses a public need?

A. In its Petition and supporting direct testimony, Rock Island presents the estimated economic benefits to the Illinois public based on wind generators or their power purchasers signing capacity contracts with Rock Island. In describing these benefits, Rock Island is doing what every other transmission developer would do: making reasoned assumptions about how the line will be used, defending those assumptions, and demonstrating the resulting benefits to the public. The Commission can review Rock Island's analysis to make sure it is accurate, reasoned and plausible.

ComEd and ILA ask the Commission to discard Rock Island's analysis of consumer benefits and, instead, look only to the presence of contracts to establish the Project is needed. They base their position on the view that Rock Island's merchant business model increases the risk that the Project may not actually be needed. In fact, Rock Island's merchant business model actually reduces risks to the public. Rock Island's presentation of consumer benefits, along with Mr. Zuraski's cost-benefit analysis, which I discuss below, have, like any transmission cost-benefit analysis, made forecasts about a number of variables. Without such forecasts, it is impossible to evaluate the benefits of any transmission project, yet there is always a risk the forecasts could be wrong. But if reality deviates from Rock Island's forecasts (or Mr. Zuraski's, or anyone else's) so much that the Project becomes uneconomic, the Project's merchant model (together with Mr. Pregozen's condition) ensures that the Project will not be built. From the public's perspective, this reduces risk compared to a socialized transmission project approved based on a set of forecasts, since in the case of the Rock Island Project, the public will not face the financial risk of paying for an uneconomic or uncompleted project based on incorrect forecasts. ComEd and ILA argue Rock Island's merchant business model adds risk to the public, but in fact, our model reduces risk.

Q. Is Rock Island committed to going through the required PJM and MISO study processes prior to constructing the Project?

A. Yes, absolutely. Rock Island is required by law and federal regulation to complete the required interconnection studies before it connects to PJM and MISO. If the Commission wanted to condition Rock Island's certificate of public convenience and necessity on completing the required reliability studies with PJM and MISO and signing the necessary interconnection agreements, Rock Island would not have any objection, as this condition already exists in practice.

867 **Q. Do the potential system upgrades make Rock Island's Project uneconomic?**

868 A. No, potential interconnection upgrades do not fundamentally alter the benefits or
869 soundness of the Project. As discussed in the rebuttal testimony of Rock Island witness
870 Dr. Wayne Galli, the latest estimate of interconnection upgrades from PJM's re-tooled
871 system impact study is $24 million, or slightly over 1% of the estimated Project cost, and
872 equal to about $5,600 per MW of enabled wind generation. Even if this amount were to
873 increase as a result of additional studies, the Rock Island Project can remain economic for
874 several reasons. First, local wind developers in less windy areas, compared to the Rock
875 Island Resource Area, may also face substantial system upgrades. Rock Island Exhibit
876 10.18 shows the average upgrades faced by Illinois wind farms in the PJM queue as of
877 today are over $77,000 per MW. State RPS demand will persist even if renewable energy
878 projects face higher than expected upgrade costs. So long as the Project's
879 interconnection upgrades are not proportionally higher than the upgrades for wind
880 generators located within the PJM footprint, the Project can remain competitive with
881 these wind farms as a source to meet the demand for renewable energy. Second, if major
882 new lines are required to interconnect the Project as a result of additional studies, a
883 portion of the costs may be assigned to other interconnecting entities, reducing the
884 impacts on Rock Island's delivered cost of energy. Under the terms of the PJM tariff, if
885 Rock Island pays for new transmission lines that are subsequently used by future
886 interconnection customers, the future customers must reimburse Rock Island for a pro
887 rata portion.[33]

888 **Q. How can the Commission address ComEd's concerns without making it impossible**
889 **to develop the Project?**

[33] See Section 219 of the PJM OATT. http://www.pjm.com/~/media/documents/agreements/tariff.ashx (last accessed August 12, 2013).

A. ComEd (and potentially ILA) would require Rock Island, and it seems every other merchant transmission developer as well, to go about development in an order that is, as I have described earlier, impossible. The consequence would be that Rock Island could not proceed, and if the same sequence is imposed, no other merchant transmission line could proceed. Rate-based transmission lines would be customers' only option, and there would be no meaningful competition to provide electric transmission service.

ComEd's goals for the Commission's oversight of Rock Island--ensuring that the Project is adequately financed, properly subscribed and reliably interconnected--are all reasonable. However, staying Rock Island's Petition, or denying it without prejudice to re-file at a later date, as Mr. Naumann proposes, is not the way to achieve these goals. My testimony proposes a way to achieve these goals while allowing the Project to proceed. Mr. Pregozen's suggested condition directly addresses the concern about adequate financing. The condition addresses capacity agreements and RTO interconnection agreements and the related system upgrade requirements, too, since the Project cannot be financed without these agreements in place. Rock Island is willing to accept a condition on its certificate that it must seek Commission approval prior to recovering any costs of the Project through broad cost allocation to transmission users in general, rather than from the specific transmission customers of the Project. Rock Island is already required by law and federal regulation to complete the required interconnection studies with PJM and MISO prior to flowing power through the Project. But if the Commission also wished to make the requirement to complete the necessary PJM and MISO studies and sign the resulting interconnection agreements an explicit condition in Rock Island's certificate, Rock Island would accept such a condition.

IV. ROCK ISLAND'S CONNECTED GENERATORS WILL BE WIND FARMS

Q. Please recap why Clean Line decided to develop the Rock Island Project.

A. As I describe in my original direct testimony (Rock Island Exhibit 10.0), Clean Line decided to develop the Project in order to connect the best wind resources in Northwest Iowa and the surrounding region with Northern Illinois and the PJM grid where there is a strong and growing demand for renewable energy. By connecting this wind generation to Northern Illinois and the PJM grid, the Project can increase competition to sell wholesale electricity and meet state RPS requirements, reduce pollution, and support economic development.

Q. What is your expectation about the generation that will connect to the Project's western converter station?

A. I expect that over 4,000 MW of new wind generation in the Resource Area will connect to the Project's western converter station. The Project is designed to deliver 3,500 MW of power at the Collins substation in PJM, but I expect that the total amount of wind generation will be higher for two reasons. First, Rock Island intends to construct the western converter station to be rated at between 3,800 and 3,900 MW so that at peak electric losses, the Project can deliver 3,500 MW at the Collins substation. Second, I believe wind farms will find it economical to buy firm service for somewhere between 80-90% of their maximum output. It is very unlikely that all wind farms connected to the Project will produce at their maximum output simultaneously, so that level of firm service is likely to allow all (or nearly all) of a wind farm's output to be deliverable via the Project.

Q. Why does it appear that ComEd and ILA witnesses object to Rock Island's assumption, for the purposes of measuring Project benefits, that wind farms are connected to the western end of the Project?

A. ComEd and ILA witnesses point out FERC's denial of Rock Island's request to provide a preference for renewable energy in its open season for 25% of the Project's transmission

capacity not awarded to anchor tenants.[34] Rock Island's inability to preference renewable energy is hardly unique. To my knowledge, FERC has never approved a preference for renewable generation. Despite this, many billions of dollars of new transmission has been approved and constructed on the basis of enabling low cost wind, as I will further discuss later in this section.

Importantly, FERC did not say anything, nor did Rock Island ask FERC to say anything, about the likelihood other kinds of generators are actually going to connect to the Project. FERC's denial of Rock Island's request means only that from a federal regulatory perspective, it is not impossible for other generators to buy service on the Rock Island Project; it does not mean that the purchase of transmission service on the Project by generators other than wind is economic, likely, or a reasonable expectation.

ComEd and ILA also cite the fact that no specific generators have signed capacity or interconnection agreements with Rock Island.[35] In **Section III** of my testimony, I discuss why binding arrangements with specific wind farms are not feasible prior to obtaining the necessary regulatory approvals. ComEd and ILA may fairly note the theoretical but unlikely possibility that the line may be used in a different way than Rock Island intends. But ComEd and ILA provide no evidence about why Rock Island's modeling assumptions about connected wind generation are unlikely. Further, Mr. Naumann's claim that "no one can predict" the generation connected to the Rock Island Clean Line is incorrect.[36] As I discuss in this section of my testimony, a prediction is very much possible based on (1) the plentiful wind resource in the Resource Area, (2) the cost advantage of wind generation in the Resource Area versus Northern and Central

[34] ComEd Exhibit 1.0 REV: lines 156, 521-522, 767-768; ILA Exhibit 7.0: lines 233-236.

[35] ComEd Exhibit 1.0 REV: lines 770-772, lines 887-890; ILA Exhibit 7.0: lines 199-200.

[36] ComEd Exhibit 1.0 REV: line 164.

Illinois, (3) the lack of such cost advantage for other generation besides wind, (4) the high level activity of wind developers in the Resource Area, (5) the low level of activity of developers of other kinds of power plants in the Resource Area, and (6) several precedents (including the MISO MVP Projects) which made reasoned and defensible assumptions about the locations of new wind generation.

Q. Has Rock Island ever advocated to PJM that Rock Island be studied with some other kind of generation, besides wind, connected to the Project?

A. No. Mr. Naumann suggests that Rock Island told PJM to assume some other sort of generation is connected to the Project's western end for the "light load analysis" of the system impact study,[37] but that is not correct. The discussion between Rock Island and PJM did not concern what kind of generation is likely to connect to the Rock Island Clean Line's western converter. The discussion did concern whether it is even appropriate to study a merchant transmission line based on the expected generation that will connect to the line. In the re-tooled system impact study received by Rock Island from PJM on August 9, 2013, PJM's approach is to study merchant transmission lines based on their level of firm interconnection capacity requested, regardless of the expected fuel type of connected generators. Rock Island acknowledges that PJM (subject to its tariff) has the final say about how to model the Project in the light load analysis. Rock Island's discussions with PJM on the study methodology do not, however, cast doubt on the very high likelihood that wind generation, not some other sort of generation, will connect to the western end of the Project.

Q. What factors did Rock Island consider in deciding to locate the western converter station of the Project in O'Brien County, Iowa?

[37] ComEd Exhibit 1.0 REV: lines 519-520. Dr. Wayne Galli's rebuttal testimony gives an overview of the light load analysis.

A. Rock Island looked for a location (1) near an existing high voltage transmission line that could provide voltage support for a line commutated HVDC converter and (2) in close proximity to an excellent wind resource area that could provide some of the lowest cost wind energy. In determining that O'Brien County, Iowa is such a location, Rock Island relied on wind studies performed by meteorology firms and NREL, discussions with wind developers, our own management team's experience (while with previous employers) in developing more than 500 MW of wind farms in the Resource Area, and our experience with transmission constraints in the Resource Area that prevented further build out of wind generation.

Q. Please describe the activity of wind developers in the Resource Area.

A. Rock Island has identified 18 developers that are active in the Resource Area, as shown on Rock Island Exhibit 10.19. Based on research on recorded options, I found that these developers control almost 100,000 acres of land, or about 400 square kilometers, in O'Brien County and the counties which border it. Using NREL's suggested conversion factor of 5 MW per square kilometer (which I also used in Rock Island Exhibit 10.2), I estimate that these options alone can host approximately 2,000 MW of wind farms. Of course, this estimate does not include land positions held by wind developers that cannot be ascertained from public records and publicly available information. Moreover, this represents only a fraction of the total wind resource potential. As I discussed in my original direct testimony, the high capacity factor wind potential in O'Brien County, Iowa and the surrounding eight counties is about 45,000 MW, which itself is only a fraction of the wind resource potential in Iowa and surrounding states.[38] As additional transmission outlets, such as the Rock Island Project become available, wind developer activity should increase further, beyond its already high level.

[38] Rock Island Exhibit 10.0, pp. 4-5.

Q. How does this compare to the development activity of thermal power plants in the Resource Area?

A. Although we have researched for potential development of thermal generation in the Resource Area, I have no knowledge of any generation under active development, meaning the developer is acquiring land and working on obtaining permits, with the exception of one MidAmerican coal plant which may be converted to natural gas.[39] Nor am I aware of any plans by owners of existing thermal generation in the Resource Area to connect to Rock Island for the purposes of exporting power. Despite their objections to Rock Island's assumptions about connected wind generation, ComEd and ILA have not provided any evidence that any other kind of power plant is under development in the Resource Area, or would be likely to subscribe or connect to the Rock Island Project.

Q. Why does wind generation have a geographic advantage by locating in the Resource Area, compared to Northern Illinois?

A. As I describe in my direct testimony, wind speeds are higher in Northwest Iowa and the surrounding region than they are in Illinois and other locations to the east. These higher wind speeds result in higher capacity factors and lower costs to generate wind energy.[40] In addition, in my experience the cost to construct wind farms is cheaper in the Resource Area than in locations farther east. Larger wind farms are possible in the Resource Area due to lower population density and higher prevalence of windy land areas. These larger wind farms result in economies of scale in construction. They are cheaper to construct, on a unit cost basis, than a smaller wind farm. Finally, the times and amount of wind power production in the Resource Area are statistically uncorrelated with the times and

[39] I refer to MidAmerican's Neal Energy Center. See http://siouxcityjournal.com/business/local/midamerican-deal-to-end-coal-burning-at-sioux-city-area/article_64720b93-22a2-5052-9ca2-2c477f7f863.html (last accessed August 12, 2013).

[40] Rock Island Exhibit 10.0: lines 141-187.

amount of wind power production in Northern Illinois. This lack of correlation reduces overall variability from wind power and the likelihood that in certain hours too much wind power will be generated relative to load and transmission capacity. This increases the economic attractiveness of locating wind generation in the Resource Area.[41]

Q. Do any other types of generation resources have a similar geographic advantage in northwest Iowa and the surrounding region?

A. No, they do not, which explains the lack of interest by other kinds of generators subscribing for long-term capacity on the Rock Island Clean Line. From January 2010 until April 2013, average monthly "citygate" natural gas prices were $0.19 per million British thermal unit higher in Iowa than in Illinois.[42] Natural gas heat rates, the measure of how much natural gas (in British thermal units) is necessary to produce one kilowatt-hour of electricity, typically range from 7,000 to 10,000 btu/kWh. Using EIA's average price difference as a proxy for the difference in natural gas prices between Northwest Iowa and Northern Illinois, it would be on average, 0.13 cents to 0.19 cents more expensive per kilowatt-hour to burn natural gas in Iowa than in Illinois to generate electricity. In other words, there is no economic advantage to burning gas in Iowa versus in Illinois to generate electricity. Therefore, there is no reason to build new gas generation in Northwest Iowa, subscribe for long-term capacity on the Rock Island Project, and deliver the output of the new gas generation to Northern Illinois. Building a large amount of natural gas generation in Northwest Iowa would also require a major expansion of natural gas pipeline infrastructure, which would ultimately be paid for by the generators or other consumers of natural gas. The calculations contained in this paragraph also appear in Rock Island Exhibit 10.20.

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[41] Rock Island Exhibit 10.0: lines 572- 594.

[42] EIA. See http://www.eia.gov/dnav/ng. Last accessed July 14, 2013.

Iowa, like Illinois, is seeing major coal plant retirements, not new capacity additions. In January 2013, MidAmerican announced the retirements of five additional Iowa coal plants, and Interstate Power & Light (an Alliant Energy subsidiary), announced the retirement of several Iowa coal units.[43] No new nuclear construction is planned in the Resource Area. Even solar generation does not have a geographic advantage in Northwest Iowa compared to Illinois; in fact, as is evident from Rock Island Exhibit 10.21, an NREL map of solar intensity, the solar resource is comparable in both areas. In summary, no other generation type besides wind energy obtains a significant geographic advantage by locating in the Resource Area versus locating in Northern Illinois.

Q. What specific assumptions has Rock Island made about the generation connected to its western converter station for purposes of Mr. Moland's modeling?

A. I selected eight wind farm sites for which modeled output was available from NREL's Eastern Wind Integration and Transmission Study. In all cases, the distance from Rock Island's western converter site to the location of the modeled wind farm was less than fifty miles. I selected sites so that the sum of their capacity is 4,349 MW. I do not believe the specific sites selected are critical. As I discuss above, there is more than enough wind resource potential in the Resource Area to fill up the Project's capacity many times over. Moreover, the seasonal and diurnal patterns of wind generation in the Resource Area are relatively consistent. To prove this, I selected a different set of wind farms in the Resource Area that produce the same amount of energy as the original eight I selected. Rock Island Exhibit 10.22 shows that the production profiles of the two sets of wind farms are substantially similar.

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[43] See http://www.startribune.com/business/187984691.html (last accessed July 27, 2013); http://generationhub.com/2012/02/28/alliant-plans-coal-retrofits-retirements-at-two-ut (last accessed August 11, 2013).

Q. If some substantial percentage of the generation connected to the Project were natural gas, would it materially diminish the Project's economic benefits?

A. Even in this highly unlikely scenario, the consumer benefits from the Project would still be substantial. In his rebuttal testimony (Rock Island Exhibit 3.5), Mr. Moland presents the results of sensitivities to his demand cost savings estimates based on a case where 50% of the Project's connected generation is combined cycle gas generation. As I discussed earlier, I do not see this sensitivity as likely or plausible because the economics of natural gas-fired power plants favor locating new generation projects closer to load in order to minimize transmission costs. Yet despite the low likelihood of this scenario, Mr. Moland's additional analyses show that the Project still benefits Illinois consumers through additional competitive supply of generation.

Q. Is it common practice to make assumptions about the location of new generation to study the benefits of planned transmission lines?

A. Yes, it is common and is essential to any analysis of transmission lines to support the growth of wind energy. Mr. Naumann says that without contracts with specific generators, any analysis is "totally theoretical," but that is very much at odds with transmission cost-benefit studies performed in other venues.[44] For example, in performing the cost-benefit analysis for the MISO MVP lines, of which several are awaiting receipt of certificates from the Commission as I am preparing this testimony, MISO made assumptions about the locations of new wind generation based on where the lowest cost generation could be sited. Of note, MISO did not include only wind generation with signed power purchase agreements or interconnection agreements. The location of the new wind generation was based on (1) National Renewable Energy Laboratory (NREL) wind mapping data, similar to the data used by Rock Island in this

[44] EIA. See http://www.eia.gov/dnav/ng (last accessed July 14, 2013).

proceeding, to identify locations where wind generators are likely to be developed and (2) the estimated costs to produce electricity in particular wind resource regimes. MISO found that the MVP lines are beneficial because, among other reasons, they increase the transfer capacity between new wind generators and major load centers.[45]

The Southwest Power Pool, the California Independent System Operator, and the Electric Reliability Coordinator of Texas all have done similar analyses to measure the benefits of transmission lines which they have approved for construction. All of these transmission planners have justified the construction of major new transmission to support wind energy by making defensible and reasoned assumptions about the location of new wind generation. Importantly, all of these studies relied on wind resource analysis and wind developer activity, not just on signed interconnection or transmission service agreements. Rock Island Exhibit 10.23 provides a more detailed overview of these studies. The MISO MVP studies and the other studies described on Rock Island Exhibit 10.23 contradict any claim that it is impossible or unreasonable to consider new wind generation in transmission benefits analyses unless that generation is already contracted by the transmission owner.

V. THE ROCK ISLAND PROJECT IS A COST-EFFECTIVE MEANS TO PROVIDE RENEWABLE ENERGY TO ILLINOIS AND TO PROMOTE THE DEVELOPMENT OF AN EFFECTIVELY COMPETITIVE ELECTRICITY MARKET

Q. Please recap the approach to measuring consumer benefits to the public in your direct testimony and the direct testimony of other Rock Island witnesses.

A. In his direct testimony, Dr. Karl McDermott estimates the benefits to Illinois consumers which are created by the Project and the generation it enables. These benefits take the form of reduced wholesale electricity prices from increased competition in electric supply. Dr. McDermott's testimony relies on modeling performed by Mr. Moland, who

[45] The MISO MVP benefit study is available at https://www.misoenergy.org/Planning/Pages/MVPAnalysis.aspx.

used PROMOD, a widely accepted modeling tool in the electric utility industry, to estimate the effect of the Project on wholesale power prices. In my direct testimony, I discussed the increasing demand for renewable energy due to state RPS requirements in Illinois and the PJM region (as well as the increasing demand for electricity from renewable resources over and above RPS requirements) and explained how the Project can help meet these requirements in a cost-effective fashion. Dr. McDermott and I both noted in our direct testimony that the Project could add to the supply of RECs and capacity that could be accessed by Illinois consumers. The prices for capacity and RECs can reasonably be expected to decrease as a result of the additional supply provided by the Project, but Rock Island has not estimated by how much.

Q. In Rock Island's analysis of consumer benefits, why didn't you consider the capital and operations cost of the Project as a detriment to consumers?

A. For generators or other market participants who sell into the PJM and MISO markets, transmission service is an input cost, along with fuel costs, capital costs, operations and maintenance, and financing. In a deregulated, competitive electricity market, buyers of wholesale electricity do not directly reimburse generators or other market participants for these input costs, but rather pay them the market clearing price set by the grid operator. In their direct testimonies, Mr. Moland and Dr. McDermott include the estimated market clearing prices that would be paid to generators as a detriment to consumers in their analysis. They conclude that the amount of detriment is *less* in the with-Rock Island scenarios than in the without-Rock Island scenarios, and therefore the Project creates net consumer benefits. This modeling approach is reflective of the way consumers (or load-serving entities on behalf of consumers) actually buy electricity in PJM and MISO. In such a modeling approach, it would not be appropriate to consider that consumers pay generators both for their output (electric energy) and for the various inputs, including

costs of transmission service, that go into producing that output. To include both (1) input costs, as if they were reimbursed by consumers and (2) the price of purchasing the resulting output as costs would be double counting and produce an absurd result.

Q. **Is it correct, as Mr. Zuraski asserts, that Rock Island has not considered the cost of the Project in its analysis of consumer benefits?**

A. Mr. Zuraski is correct that Dr. McDermott's analysis of consumer benefits did not include the cost of building, operating and financing the Project. But there is a good reason this cost was not included: Rock Island is not asking electric consumers (or their retail electric providers) to pay for the cost of the Project and, as I explain above, Rock Island's business model requires that the users of the Project's capacity recover the cost of their capacity contracts from the proceeds from selling wholesale energy (along with capacity and RECs). Thus, the costs actually incurred by consumers related to the Project (buying wholesale electricity, capacity and RECs) are analyzed and discussed by Dr. McDermott.

Q. **Under what circumstances would it be appropriate to include the costs of building, operating and financing a transmission line in the consumer benefit analysis?**

A. If a utility proposes to build a project and directly recover the cost from consumers, such as a more traditional rate-based transmission line to be built by an incumbent utility, then it would be appropriate to include the costs of the Project as a detriment to consumers. In that case, the costs of the Project are not recovered solely from market participants (for whom the cost of service is an input cost), but rather from the entire base of electric ratepayers. This is not Rock Island's business model and, as I mentioned earlier in my testimony, Rock Island is willing to commit not to recover Project costs from Illinois ratepayers in general without a further Commission approval to do so.

Q. Please summarize your understanding of Mr. Zuraski's model.

A. Mr. Zuraski's model does two things. First, it determines if there is a net economic benefit of building the Project compared to building nothing and purchasing energy from the market. In this analysis, the model compares (a) the value of the energy delivered by the Project, using estimated market prices, plus the LMP savings to consumers with (b) the cost of generating and transporting that energy. Mr. Zuraski concludes that the Project likely creates a net benefit (that is, in most of his model's scenarios, a>b).[46]

Second, Mr. Zuraski's model compares (a) the cost of generating wind energy in the Resource Area and moving it to Northern Illinois via the Project to (b) the cost of generating wind energy locally. Mr. Zuraski also considers a third scenario "(c)" where wind projects are constructed in Iowa without additional transmission. I agree with Mr. Zuraski's position that this scenario may not be realistic. It is simply not possible to add over 4 GW of new wind in Iowa, remote from major load centers, without major new transmission construction. Therefore, scenario (c) should not be considered a true "alternative" to the Rock Island Project

In his direct testimony, Mr. Zuraski concludes that in a majority of his sensitivity cases, the first option, which includes the Rock Island Project, is more cost effective.[47] Given the huge demand for renewable energy that I discuss in my direct testimony, the two options he studies in this scenario are not mutually-exclusive options. Both new wind generation in Illinois and transmission development like the Project to access wind generation outside Illinois will need to occur to economically meet the RPS requirements of Illinois and other states in the region. In any event, Mr. Zuraski's comparison supports Rock Island's claim that the Project could provide renewable energy more cheaply than

[46] ICC Exhibit 3.0: lines 676-680.

[47] ICC Exhibit 3.0: lines 822-824.

relying exclusively on wind energy from less windy sites closer to load, and his finding is even stronger when considering the suggested changes to his model that I describe below.

Q. Do you have specific comments on Mr. Zuraski's methodology, inputs and assumptions?

A. Yes. I discuss these below.

a) Years of LMP Savings

In modeling the benefits of the Rock Island Project, Mr. Zuraski considers only five years of LMP savings to consumers. Mr. Zuraski's election is understandable since, in his direct testimony, Rock Island witness Dr. McDermott only presented five years of LMP savings. But Dr. McDermott's and Mr. Zuraski's models have fundamentally different methodologies, and therefore require a different approach to LMP savings. Dr. McDermott ends savings after five years because he assumes the lower prices caused by Rock Island will, over time, cause other generators to add less capacity until the market re-adjusts to its prior price equilibrium. [48] Mr. Zuraski, on the other hand, is not estimating an equilibrium based on market prices. He is performing a cost-benefit analysis of discrete alternatives to produce or procure a specified amount of electricity. Since Mr. Zuraski's analysis includes the full, lifetime cost of the Project, it is also appropriate to consider LMP savings and other benefits over the full useful life of the project.[49]

b) Modeling treatment of transmission charge

Mr. Zuraski's model assumes Rock Island's transmission charge is paid for by ratepayers. Though this treatment is appropriate for most transmission lines before the Commission,

[48] Rock Island Exhibit 4.0, p. 30: lines 545-547.

[49] To model this extended period of LMP savings, I used the rate of electricity price inflation in Mr. Zuraski's model.

Rock Island presents a different circumstance due its participant funding. Mr. Zuraski's model should instead treat Rock Island's transmission charge as paid by wind generators because they, not ratepayers in general, are likely to be Rock Island's transmission customers. There are two important consequences to the model results from making this change. First, consumers may have a lower discount rate than wind generators. Wind generators' higher cost of capital reflects the risks involved in generating energy and purchasing transmission service. Using the generators' higher cost of capital is appropriate since they, not the ratepayers, take the risks of service on the Project. Second, wind generators who buy transmission service can deduct the charge as an expense on their income taxes. As I discussed earlier, Mr. Zuraski's model compares the cost of generating a specified amount of renewable energy in two ways: (1) installing more, lower capacity factor turbines in Illinois and (2) installing fewer, higher capacity factor turbines in Iowa, and paying for transmission on the Rock Island Project. In the first scenario, generators can depreciate for income tax purposes the cost of installing the additional wind turbines in Illinois (vs. in Iowa). In the second case, if generators cannot also deduct the cost of Rock Island's transmission service, the model will overestimate the taxes owed by these generators, and therefore overestimate the cost of this alternative.

c) Transmission system upgrades added for Illinois wind generation

Mr. Zuraski's model assumes that no additional transmission system construction would be needed to interconnect thousands of megawatts of wind in Illinois, but this is not realistic. In order to get a reasonable estimate for the potential interconnection upgrade costs for Illinois wind farms, I looked at the Illinois wind projects currently under study in PJM's active generation interconnection queue and the estimated upgrade costs cited in the latest PJM study. The capacity weighted average upgrade cost per megawatt of wind

currently under study in the PJM queue is $77,730/MW; my calculations are provided in Rock Island Exhibit 10.18.

Note that, to be consistent, Mr. Zuraski's model should also include the estimated costs of Rock Island's system upgrades.[50] Alternatively, Mr. Zuraski's model could exclude system upgrade costs both for the Project scenario and the new Illinois wind scenario.

d) Capacity value

Mr. Zuraski uses the MISO Capacity Resource Factor from MISO's Planning Year 2013-2014 Wind Capacity Credit Report for Iowa wind farms.[51] MISO calculates this factor to determine the resource adequacy contribution of MISO wind to the MISO system. But Rock Island's connected wind farms will deliver to PJM. To determine the capacity value of Rock Island's connected wind generation to the PJM system, I used the method outlined in PJM Manual 21, Appendix B: Calculating Capacity Values for Intermittent Capacity Resources. The resulting capacity value (as a percentage of nameplate capacity) is 30%.

e) Wind farm costs

I suggest an update to wind farm cost estimates based on Lawrence Berkeley National Laboratory's 2012 Wind Technologies Market Report. This report, which is based on information from projects built in 2011 and 2012, shows that average cost for projects located in the Interior region (which includes Iowa) is $1,762/kW and the average cost

[50] On August 7, 2013, I supplied the "latest" cost estimate to Mr. Zuraski in Rock Island's response to ICC Staff Data Request RJZ 2.4. This estimate is $1.97 billion and includes the latest system upgrade costs estimated by PJM of $24 million.

[51] https://www.misoenergy.org/Library/Repository/Study/LOLE/2013%20Wind%20Capacity%20Report.pdf (last accessed August 12, 2013).

for projects in the Great Lakes region (which includes Illinois) is $2,002/kW.[52] This is consistent with my experience that wind farms in the Resource Area are cheaper to construct.

f) Taxation changes to the model

I suggest four other minor taxation refinements to the model: i) including the inflation adjustment to the Production Tax Credit as prescribed by Section 45 of the Internal Revenue Code; ii) including an inflation factor in the special property tax assessment for wind farms in Illinois as required by the state legislature (see § 35 ILCS 200/10-600 et seq.), iii) using the property tax exemption for wind farms in Iowa (see Iowa Code § 441.21(8)) with depreciation of the assessed value, iv) and making a minor correction to the "Model A" calculations to reflect Mr. Zuraski's statement that "the property tax values assumed in the analysis were taken directly from [Rock Island] Ex. 10.8."[53]

Q. Based on your recommended changes, please summarize the updated results of Mr. Zuraski's analysis.

A. The details of the updated model results are provided in Rock Island Exhibit 10.24. Including my suggested changes, Mr. Zuraski's model indicates that the Project is overwhelmingly beneficial compared to the alternative of no new construction, in which consumers purchase energy from the market. This remains true in every case modeled, with an average consumer benefit of $16.3 billion with Model A and $17.9 billion with Model B, in both cases uses a 5% real discount rate. These consumer benefits are depicted in Figures 2, 3, 5, and 6 in Rock Island Exhibit 10.24.

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[52] Available at http://www1.eere.energy.gov/wind/pdfs/2012_wind_technologies_market_report.pdf (last accessed August 19, 2013).

[53] Staff Exhibit 3.1, pp. 4-5.

Compared to building lower capacity factor wind, the Project also proves economic, meaning the Project results in a lower revenue requirement than building local (Illinois) wind farms. Using Model A, this is true in the "base case" as well as in 88-93% of the sensitivity cases, depending on the discount rate used. Model B yields similar results; the Project results in high consumer savings in the "base case" and in 87-96% of the sensitivity cases. These results are summarized in Figures 1, 4 and 7 in Rock Island Exhibit 10.24.

Q. **Do you agree with Mr. Zuraski's suggestion that regional LMP savings, not just Illinois LMP savings, are appropriate to consider in the type of cost-benefit analysis he performs?**[54]

A. Yes. Mr. Zuraski's analysis includes all the costs of the Project and the associated generation, whether they are incurred by residents of Illinois, Iowa, or somewhere else. To be consistent, this analysis also must include all the benefits of the Project, regardless of where the beneficiaries live.

Q. **Are there benefits of the Project that are not included in Mr. Zuraski's analysis?**

Yes. Mr. Zuraski considers only two benefits of the Project: the access to lower cost wind generation and reduced costs of wholesale electricity. There are a number of other benefits from the Project which Rock Island has addressed in this proceeding:

- Improved reliability: As discussed in the direct testimony of Rock Island witness Len Januzik, the Rock Island Project improves interregional transfer capacity between Northwest Iowa and Northern Illinois, improving the resiliency of the grid in the event of transmission contingencies, generator outages, or extreme weather.

- Geographic diversity: As discussed in my direct testimony, geographic diversity in the locations of wind generators reduces variability and the costs of wind integration.

[54] ICC Exhibit 3.0: lines 449-454.

- Economic benefits: As discussed in the direct testimony of Dr. David Loomis, the Project will create additional economic activity and jobs in the State of Illinois and the surrounding region.

- Environmental benefits: As discussed in the direct testimony of Rock Island witness Gary Moland and in my direct testimony, the Project and the connected wind generation can substantially reduce emissions of carbon dioxide, sulfur dioxide, nitric oxides and mercury, improving environmental quality and human health[55].

While it can be challenging to translate these benefits into dollar figures, the benefits remain real. At the very least, it is worth noting that because of the difficulties in quantifying all of the benefits, Mr. Zuraski's analysis likely understates the benefits of the Project.[56]

Q. **In Mr. Zuraski's testimony, he raises the question of whether Illinois taxes should be included or excluded from the costs of the Project and alternatives.[57] What is your opinion?**

A. Illinois taxes should be considered as a true cost of the Project and alternatives. As I noted earlier, Mr. Zuraski's model considers all costs of the Project, no matter who incurs them, and the model takes into consideration the benefits of reduced wholesale electricity prices throughout the MISO and PJM region. Excluding Illinois taxes because they represent a wealth transfer within the State of Illinois would be inconsistent with the otherwise comprehensive geographical scope of Mr. Zuraski's model. Moreover, the type of "revenue requirements" analysis Mr. Zuraski performs is meant to measure the costs to ratepayers of different alternatives. Revenue requirements analyses typically

[55] Mr. Zuraski correctly notes that the production tax credit, in part, compensates wind farms for environmental benefits. However, the actual economic value of environmental savings may be higher than the value of the tax credit, and the production tax credit also compensates renewable energy generators for national security, fuel diversity, economic development, and other benefits.

[56] See ICC Exhibit 3.0, pp. 12-13. Mr. Zuraski goes on to discuss the exclusion of environmental benefits from his analysis in lines 397-418.

[57] ICC Exhibit 3.0, pp. 43-46.

include income taxes as part of the revenue requirement. Measuring the costs and benefits of the Project from a different perspective, not just ratepayers' perspective, would require a different analysis.

Q. Is it appropriate to approve Rock Island's Petition even if Mr. Zuraski's analyses show there is some uncertainty that the Project is cheaper than building more Illinois wind generation?

A. Yes, for two reasons. First, as I mentioned above, the total size of regional RPS requirements is so large that building the Project and building more wind in Illinois are not mutually exclusive alternatives. The Project will also compete against other renewable energy supply sources, such as smaller wind farms to the east of Illinois, offshore wind and photovoltaic solar, all of which are higher cost than Illinois wind. As I mentioned in my direct testimony, total demand for renewable energy in PJM states in 2020 will be about 131 million MWh.[58] To supply the majority of that RPS demand only with Illinois wind would require a simply staggering and improbable level of construction in Illinois. If two-thirds of the needed renewable electricity were generated in Illinois, this would require 33 GW of wind farms to be installed in Illinois.[59] This is more than nine times the current level of wind installations in Illinois (3.6 GW), and almost three times the amount of wind power (12.2 GW) currently installed in Texas—a state that is much larger and windier than Illinois.[60] Cost effectively meeting the regional RPS requirements will not require only the Project or more wind installations in Illinois; it will require both. As Dr. McDermott and I showed in our direct testimonies, regional RPS

[58] Rock Island Exhibit 10.0, p. 18.

[59] For this calculation, I assumed a 30% capacity factor. 131,000,000 MWh*(2/3) /(8,760 hours per year x 30% capacity factor) = 33,232 MW of installed wind.

[60] AWEA. See http://awea.files.cms-plus.com/FileDownloads/pdfs/AWEA%20US%20Wind%20Industry%201Q%202013%20Market%20Report_Executive%20Summary.pdf (last accessed on July 26, 2013).

compliance is directly relevant to individual states like Illinois. Since they can be bought and sold across state lines, RECs must be viewed as a regional market with linked pricing across states, just like the regional market for wholesale electricity.[61]

Second, uncertainty is inherent in any cost-benefits analysis. The benefits of new transmission lines accrue over periods of decades, and the costs of transmission projects can also vary due to commodity prices, design factors, and schedule. Because of the timeframes and uncertainties involved, utilities and regulators cannot avoid making informed forecasts about the future. However, Rock Island's business model eliminates the risk that ratepayers pay too much because of wrong forecasts. If the Project's anticipated benefits decrease between now and the date Rock Island begins construction, the market may not allow Rock Island to sign sufficient capacity contracts to build the Project. If future electricity prices are lower than forecasted, Rock Island and its transmission customers, not Illinois ratepayers, take that risk. If the Project cost is higher than what Mr. Zuraski used in his analysis, Rock Island bears that risk, not Illinois consumers. Rock Island's merchant business model offers the Illinois public the opportunity to benefit from additional competition without taking the risk that the Project's benefits are lower than expected, or that the Project's costs are higher than expected.

VI. ROCK ISLAND'S RELATION TO THE PJM AND MISO PLANNING PROCESS

Q. Will the PJM RTEP process evaluate the Rock Island Project to determine if it is needed?

A. No. As Dr. Wayne Galli described in his direct testimony, PJM studies merchant transmission lines through its interconnection queue and does not evaluate merchant transmission lines using cost-benefit models or other planning tools. In his direct

[61] Rock Island Exhibit 10.0: lines 424-442.

testimony, ComEd witness Mr. Naumann confirms the limited nature of PJM's review,[62] which is virtually identical to how PJM studies and incorporates generators into the RTEP. Because PJM provides a comprehensive set of price signals to generators through LMPs and capacity auctions, the market participant, not PJM, decides on the basis of these prices whether the project in question is economic. The statement by Mr. Naumann and Dr. Gray[63] that PJM's RTEP has not established the need for the Project is true but is irrelevant since PJM did not and will not study this need.

Q. Has PJM proposed a set of projects to allow for region-wide RPS compliance?

A. No, PJM has not proposed such a set of projects. In its compliance filing to FERC Order 1000, PJM made clear it would not propose such projects. Rather, it would leave the matter to individual states. If states want to sponsor a transmission upgrade as a "Public Policy Project" and pay for the cost, they are free to do so. But they are not required to, and PJM does not intend to allocate broadly the costs of RPS compliance. As the Commission knows well, PJM's prior efforts to allocate transmission costs more broadly across its service territory have been fraught with complication and legal challenges.[64] Further, as PJM notes in its FERC Order 1000 Compliance Filing, the fact that not all of the PJM states have RPS requirements creates further barriers to broad cost allocation in support of renewable energy policy goals.[65]

Q. Absent a comprehensive plan to meet RPS in the PJM region, what role do merchant transmission lines like the Rock Island Project play?

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[62] ComEd Exhibit 1.0 REV: lines 297-303, 321-330

[63] ComEd Exhibit 1.0 REV: lines 901-903; ILA Exhibit 7.0, pp. 6-7.

[64] See *Illinois Commerce Commission v. FERC*, 576 F.3d 470 (7th Cir. 2009).

[65] PJM Order 1000 Compliance Filing. Available at http://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=13096032; see especially pp. 47-48 (last accessed on August 12, 2013).

A. In the absence of a regional or interregional planning effort to assure cost-effective RPS compliance, there are, in my view, three possible outcomes. First, states may voluntarily pay for transmission lines. I consider this unlikely, as this voluntary approach suffers from the notorious free-rider problem. The public benefits from adequate transmission infrastructure, but no single beneficiary wants to pay for it, and certainly no one wants to pay for it if other beneficiaries do not also pay. At this time, no state-backed Public Policy projects are under construction or approved for construction by PJM.

Second, states may fail to meet their RPS, or meet them in uneconomic ways by using small, local wind and rooftop solar, which require fewer transmission upgrades. This obviously is not good for consumers, since they will pay more for energy and RECs.

The third possibility, which I consider the most likely and beneficial, is that merchant transmission lines proceed in PJM that enable the most cost-effective renewable energy. I believe this outcome is considerably more likely than voluntary public policy projects, which suffer from the free-rider problem and a difficult coordination across multiple ratemaking jurisdictions. Further, merchant transmission lines are considerably more cost-effective than paying more for more expensive renewable resources, or failing to meet RPS requirements, resulting in the maximum price caps being reached. The need for merchant transmission lines is especially pressing given the lack of a comprehensive regional planning effort in PJM to meet state RPS in a cost-effective way.

Q. Has MISO approved any transmission lines to facilitate RPS compliance?

A. Yes. Unlike PJM, MISO's Transmission Expansion Plan ("MTEP") includes a series of transmission upgrades to enable more renewable energy to meet RPS requirements. The MISO MVP Projects, or multi-value projects, as referenced in the testimony of ILA

witness Dr. Gray, are a group of seventeen 345 kV alternating current transmission projects approved for construction by the MISO board of directors.

Q. What goal do the MVP Projects achieve with respect to RPS compliance?

A. As stated in the MISO report approving the MVP Projects, the initial seventeen MVP projects are dimensioned to support compliance with RPS goals in the service territories of transmission owners. The MVP projects were analyzed and approved on the assumption that wind projects will be built in the areas to be served by the MVP projects. As such, MISO's calculation of the Illinois RPS demand includes only the portion attributable to Ameren's service territory, not the portion serviced by ComEd's transmission system.[66] The rationale for the MISO MVP projects does not include providing renewable energy to Northern Illinois or the PJM transmission system.

Q. Are the Rock Island Project and the MISO MVP Projects actually "alternatives" as claimed by Dr. Gray?

A. No, the Rock Island Project and the MISO MVP Projects cannot be considered alternatives because they have different objectives and will accomplish different things. Attached as Rock Island Exhibit 10.25 is a map of the MVP Projects (taken from the MISO web page cited in Dr. Gray's testimony), which clearly demonstrates that the MISO MVP projects do not provide for delivering additional renewable energy to Northern Illinois and the PJM grid, let alone from the Rock Island Resource Area to Northern Illinois.

The MISO MVP Projects enable 41 million MWh of new renewable energy for meeting RPS goals in the MISO footprint.[67] The Rock Island Project's primary purpose,

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[66] Multi Value Project Analysis Report, p 18. Available at https://www.misoenergy.org/Library/Repository/Study/Candidate%20MVP%20Analysis/MVP%20Portfolio%20Analysis%20Full%20Report.pdf (last accessed August 9, 2013).

[67] *Id.*, p 48.

on the other hand, is to deliver low-cost renewable energy to PJM by increasing transfer capacity between Northwest Iowa and Northern Illinois. In 2020, PJM's total demand for renewable energy to meet state RPS requirements will be several times greater than MISO's. Compared with Rock Island, the MVP lines serve different geographies and different markets. Both the MISO MVP Projects (which enable 41 million MWh of renewable energy) and the Rock Island Project (which enables more than 15 million MWh of renewable energy) can be justified by the total demand for renewable energy needed to meet regional RPS requirements, while neither is by itself sufficient.

VII. OTHER ISSUES

A. THE ILLINOIS RPS BUDGET

Q. Will there be an increasing demand for renewable energy due to state RPS requirements?

A. Yes. As I stated in my original testimony, demand for renewable energy in 2020 will be approximately 131 million MWh for states in the PJM footprint. Of this, I estimate 24.3 million MWh will be to meet the Illinois RPS.[68]

Q. Do you agree with Mr. Zuraski's statement that the Illinois RPS is subject to budget limitations?

A. Yes. As Mr. Zuraski points out in his testimony, the Illinois RPS is subject to a budgetary limit of between $1.81-$1.89 per MWh of additional cost for each amount of energy sold to retail customers in the service territories of ComEd and Ameren Illinois Company.[69] I also agree with Mr. Zuraski's position that (1) the RPS budget will only allow full compliance with the RPS if the premium for wind energy (or other renewable energy sources) is sufficiently low and (2) the geographic preference for a facility to be

[68] Rock Island Exhibit 10.0, p. 18.

[69] ICC Exhibit 3.0, p. 8

located in Illinois or an adjoining state (such as Iowa) is also subject to the price of RECs being sufficiently low.

Q. Is your view about increased demand for renewable energy at odds with Mr. Zuraski's claim that the Illinois RPS budget is not, by itself, sufficient to pay for the cost of the Project?

A. No, not at all not. Rock Island's transmission service will enable its customers to sell wholesale electricity and capacity in addition to RECs, and they will be able to sell RECs to meet the RPS requirements of other states besides Illinois. These other sources of revenue are not subject to the same statutory budgetary constraints as the Illinois RPS. Mr. Zuraski's testimony demonstrates only that the Illinois RPS Renewable Resources Budget is not sufficient to pay for the Project's annual revenue needs without any contribution from any other sources. However, it remains the case that, by enabling more cheap wind energy to be delivered to Northern Illinois, the Project will make it more likely that the Illinois RPS is met at its full targeted percentage at the lowest possible cost, and that consumers enjoy the benefits of plentiful, low-cost wind energy enabled by the Project.

B. ROCK ISLAND DOES NOT IMPOSE AN UNCOMPENSATED EXTERNALITY ON LANDOWNERS

Q. Can you please describe Rock Island's compensation to landowners?

A. Rock Island's proposed compensation to landowners is discussed in greater detail by Rock Island witness Mr. Detweiler, but to summarize, Rock Island's compensation to landowners will have three components. First, Rock Island will offer landowners an upfront cash payment equal to 90% of the fee value of their land subject to a transmission easement. Second, Rock Island will make a payment for each transmission structure placed on a property. The landowner will have the option to receive this structure payment as an upfront lump sum or as an annual payment for as long as structures are

installed on the property. Together, these first two payments will equal or exceed the appraised fee value of the land for any landowner with a structure on his or her property. Third, Rock Island will pay landowners for crop damages due to construction and maintenance of the Project, and will pay for or reimburse landowners to correct any physical damage to their property caused by Rock Island, such as the costs of repairing or replacing damaged drainage tiles.

Q. Will landowners still be able to farm in the transmission easement?

A. Yes. Rock Island's transmission easements will not prevent farmers from using the land not occupied by transmission structures for agriculture. As discussed in the rebuttal testimony of Rock Island witness Matthew Koch, the structures installed by Rock Island will occupy less than two acres of land in Illinois. This is less than 1% of the land covered by Rock Island's right of way. The rest of the right of way can still be farmed.

Q. How would you respond to ILA witness Dr. Gray's claim that the construction of Rock Island imposes an "externality" because of the Project's effect on land use?

A. An externality occurs when there is a cost imposed on someone by the production or use of a good or service which is not properly taken into account in the price of buying or selling the good or service. As I described above, Rock Island compensates landowners for the use of their property; it is simply not the case that Rock Island imposes a cost on landowners but does not compensate them, as would typically be the case for an "externality." Dr. Gray does not provide any analysis of why Rock Island's compensation is insufficient to compensate landowners for any reduced value of land use. A simple economics analysis suggests Rock Island's compensation is fair. The present value of agricultural production of a plot of land should be approximately equal to, or less than, the fee value of the land. If the economic value of land were more than the market fee value, profit-minded buyers would purchase land until they drove up the price to the

point the fee value equaled the value of agricultural production. Rock Island plans to compensate landowners with structures on their property in an amount greater than the fee value of land for the whole area of the easement, not just the portion taken out of agricultural use. Landowners can continue to farm, on average, more than 99% of the easement. In addition, Rock Island has committed to make specific crop damage payments to address any reduced yields from construction impacts and to pay for other specific damages caused by construction. Rock Island's proposed compensation certainly seems sufficient to cover any reduced profits from farming, and Dr. Gray does not present any evidence to the contrary.

Even if the Project did impose some uncompensated cost on landowners, that cost would need to be considered against the broad economic and environmental benefits from enabling cost-effective renewable energy, something that Dr. Gray did not do. With that said, Rock Island is committed to compensating landowners appropriately for any lost crop revenue or any other actual economic losses, and Rock Island is willing to evaluate any analysis that asserts it is not compensating landowners fairly.

Q. Does Dr. Gray compare the land use impacts of the Project to any alternatives?

A. No, he does not. Building over 4,000 MW of wind farms in Illinois, together with building out the Illinois transmission network to accommodate these new wind farms, would have a substantial land use impact in Illinois. Commission Staff witness Mr. Zuraski notes as much in his testimony.[70] Dr. Gray's direct testimony does not explain how it is possible to produce low-cost renewable energy in order to comply with Illinois and other state RPS with a lesser impact on Illinois land use.

[70] ICC Exhibit 3.0, p. 21.

C. REMOVAL OF PROJECT STRUCTURES

Q. How would you respond to Dr. Gray's claim that Rock Island fails to protect landowners from the risk of an abandoned Project (ILA Exhibit 7.0, lines 260-293)?

A. An abandoned transmission line is extremely unlikely. For over 100 years, electric transmission lines have been constructed in the United States, and I am unaware of a single transmission line that has been constructed and then abandoned. Nor did Dr. Gray provide any such examples. The condition recommended by Mr. Pregozen of Commission Staff and accepted by Rock Island (which I discuss in **Section II**) effectively eliminates the risk that Rock Island begins construction but does not complete it.

There is no disagreement with ILA that Rock Island should commit to remove any structures in place when the Project ceases operations and restore the land subject to easement. This commitment is part of Rock Island's standard easement agreement. The point of disagreement with Dr. Gray, then, is limited to whether Rock Island should fund cash to an escrow account to be drawn upon <u>if</u> Rock Island defaulted on its contractual obligation to remove any unused towers and restore the land. As Dr. Galli describes in his rebuttal testimony, Clean Line has previously (for another of its HVDC transmission line projects) analyzed the scrap and salvage value of transmission structures, conductors and equipment compared to the cost of removing transmission structures and restoring the land at the structure sites. As Dr. Galli describes, that analysis found that the salvage value of the structures, conductor and other components equaled or exceeded the cost of removal. Since that is the case, an additional escrow fund is unnecessary. Proceeds from selling equipment, even if just for scrap, can be expected to cover the cost of removal and restoration.

Dr. Gray's argument that Rock Island should establish an escrow fund leans heavily on analogy to wind farms. While Dr. Gray is correct that some wind farm developers do establish escrow funds, it is far from a universal requirement, and there are key differences between wind turbines and transmission structures. As discussed in the rebuttal testimony of Pierre Adam, wind turbine foundations are substantially bigger than transmission tower foundations, and wind turbines weigh substantially more than transmission structures. Consequently, removing a transmission structure is fundamentally different and less costly than removing a wind turbine. Finally, wind farm leases are usually for a defined period of time, while transmission easements are typically perpetual in term. An escrow account for decommissioning makes little sense for a perpetual easement.

D. ROCK ISLAND'S REQUEST FOR A SECTION 8-503 ORDER

Q. Referring to Section VI of ComEd witness Naumann's testimony, why does Rock Island believe that it is appropriate for the Commission to issue a Section 8-503 Order for the Project in this proceeding?

A. I realize that this may be a legal issue for the parties to address in their briefs, however, Section 8-503 states that whenever the Commission finds that a new structure or structures is or are necessary and should be erected, to promote the security or convenience of the public or promote the development of an effectively competitive electricity market, or in any other way to secure adequate service or facilities, the Commission shall make and serve an order authorizing or directing that such structure or structures be erected at the location, in the manner and within the time specified in said order. From my perspective, the evidence that the Rock Island has presented to show that the Project will promote the public convenience and necessity and meets the criteria for issuance of a certificate of public convenience and necessity under Section 8-406(b) also

demonstrates that the Project is necessary and should be erected to promote the convenience of the public, to promote the development of an effectively competitive electricity market, and to secure adequate service or facilities for the purposes we have described. Further, if Rock Island were required to initiate a separate proceeding to obtain a Section 8-503 Order, we would be presenting essentially the same evidence and seeking essentially the same determination, which would result in a duplicative expenditure of resources by Rock Island, the Commission and other interested persons and entities.

Q. **Is it your understanding that a Section 8-503 order would unconditionally direct that the Project be built?**

A. No, again I acknowledge that this may ultimately be a legal issue, but that is not my understanding. The statute states that a Section 8-503 can direct or authorize the construction of a Project. I am advised that in its Section 8-503 orders for transmission lines, the Commission often states that the applicant company is "authorized" to construct the line. Nor does Section 8-503 preclude conditions on the Commission's authorization. In fact, the Section states that the Commission may specify the "manner" of construction in the order, so I would expect that the Commission would impose conditions such as those discussed in this rebuttal testimony.

Q. **Mr. Naumann appears to suggest the Project cannot be found to be "necessary" for purposes of Section 8-503 because it has not been approved through the PJM RTEP process as one that is justified by a public need for reliability, operating needs or economics. (ComEd Exhibit 1.0 Revised, p. 47, lines 901-907). What is your response?**

A. Again, I acknowledge that this may ultimately be a legal question, but it is not my understanding that "need" and "necessity," and "promoting the convenience of the

public" and "develop[ing] an effectively competitive electricity market" for the purposes of Section 8-503 are equivalent to "need" for purposes of the PJM RTEP process. As I explain in **Section VI**, PJM does not evaluate merchant transmission lines to determine if they are needed; PJM limits its review to assuring a reliable interconnection. That said, in his direct testimony Dr. McDermott presented an analysis of economic benefits to consumers which is similar to the kind of analysis PJM performs in determining whether an economics-driven project can be included in PJM RTEP for the purposes of cost allocation.

Q. Does this conclude your prepared rebuttal testimony?

A. Yes, it does.