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July 21, 2016

Via Hand-Delivery

Ms. Talina Matthews, Ph.D.
Executive Director
Kentucky Public Service Commission
P.O. Box 615
211 Sower Boulevard
Frankfort, KY 40602

Re: In the Matter of: The Application of East Kentucky Power Cooperative, Inc., for Issuance of a Certificate of Public Convenience and Necessity; Approval of Certain Assumption of Evidences of Indebtedness and Establishment of a Community Solar Tariff; Case No. 2016-00269

Dear Ms. Matthews:

Enclosed please find for filing with the Commission in the above-referenced case an original and ten (10) copies of East Kentucky Power Cooperative Inc.'s ("EKPC") Application regarding the above-styled matter. EKPC is also filing an original and ten (10) copies of a Motion to Deviate from Filing Requirements and a Motion for Confidential Treatment for certain information contained in the Application and supporting testimony. A copy of the confidential information is provided in a separate sealed envelope. Please return a file-stamped copy to me.

Please do not hesitate to contact me if you have any questions.

Sincerely,

David S. Samford

Enclosures

RECEIVED
JUL 21 2016
PUBLIC SERVICE COMMISSION

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

THE APPLICATION OF EAST KENTUCKY POWER COOPERATIVE, INC. FOR ISSUANCE OF A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY, APPROVAL OF CERTAIN ASSUMPTION OF EVIDENCES OF INDEBTEDNESS AND ESTABLISHMENT OF A COMMUNITY SOLAR TARIFF	)	Case No. 2016-00269

APPLICATION

Comes now East Kentucky Power Cooperative, Inc. ("EKPC"), by counsel, pursuant to KRS 278.020, KRS 278.180, KRS 278.300, 807 KAR 5:001 Sections 14, 15, 18 and 22, 807 KAR 5:011 and other applicable law, and for its Application for: (1) issuance of a Certificate of Public Convenience and Necessity ("CPCN") to construct and operate an eight and a half (8.5) MW community solar facility at its headquarters in Clark County, Kentucky; (2) approval to assume certain evidences of indebtedness related to such construction; and (3) approval of a wholesale community solar tariff and retail community solar tariff template, respectfully states as follows:

I. INTRODUCTION

1. EKPC is an electric generation and transmission cooperative with a growing demand for electricity within its service territory. EKPC's Board adopted a Strategic Plan in 2011 that identified various core strategies, including but not limited to pursuing prudent diversity in the fuel mix of EKPC's generation portfolio and evaluating new investments using sound financial principles. EKPC has convened Strategic Planning retreats annually since 2011, with the most recent being held in 2015. Generation diversity remains a cornerstone of the current Strategic

Plan. Likewise, EKPC established a Demand Side Management ("DSM") and Renewable Energy Collaborative ("Collaborative") in 2011 to examine ways in which EKPC might increase its DSM options and expand access to renewable energy resources.[1] As part of its final report the Collaborative recommended that EKPC consider the development of a community solar program.[2] Finally, the U.S. Environmental Protection Agency ("EPA") published the Final Clean Power Plan ("CPP") on October 23, 2015. The CPP, if allowed to stand,[3] will dictate that utilities such as EKPC invest in renewable energy resources.

2. EKPC's examination and thoughtful consideration of its future capacity and energy supply requirements, its strategic goal to diversify its portfolio, the recommendations of the Collaborative to expand access to renewable energy resources and the potential impacts of the CPP all lead EKPC to propose the construction of an eight and a half (8.5) MW community solar facility on the premises of its headquarters in Clark County, Kentucky ("Project"). The Project furthers EKPC's efforts to fulfill its strategic objectives and assures that it may continue to provide adequate, efficient and safe energy to its Members at rates that are fair, just and reasonable. This Project also offers the Members' retail customers the ability to voluntarily participate in a facilities-based renewable energy program at the least possible cost without having other retail customers meaningfully subsidize said participation.

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[1] The Collaborative members were EKPC, its 16 Owner-Members ("Members"), the Sierra Club, the Kentucky Environmental Foundation and Kentuckians for the Commonwealth. A copy of the Collaborative Report is attached hereto as Exhibit DC-1.

[2] *See* Collaborative Report at p. 9.

[3] The CPP has been challenged by EKPC and others in proceedings before the U.S. Court of Appeals for the District of Columbia. *See National Rural Electric Cooperative Association, et al. v. U.S. Environmental Protection Agency,* Case No. 15-1376 (D.C. Cir. Filed Oct. 23, 2015). On February 9, 2016, the U.S. Supreme Court issued an Order preventing the EPA from enforcing the CPP until such time as the pending legal challenge is resolved. *See Basin Electric Power Cooperative, et al., v. U.S. Environmental Protection Agency, et. al.,* Case No. 15A776 (U.S. Sup. Ct., Feb. 9, 2016).

II. FILING REQUIREMENTS

3. Pursuant to 807 KAR 5:001, Section 14(1), EKPC's mailing address is P. O. Box 707, Winchester, Kentucky 40392-0707 and its electronic mail address is psc@ekpc.coop. Counsel for EKPC should be served at the following email addresses: mdgoss@gosssamfordlaw.com, david@gosssamfordlaw.com and allyson@gosssamfordlaw.com.

4. Pursuant to 807 KAR 5:001, Section 14(2), EKPC is a Kentucky rural electric cooperative corporation established under KRS Chapter 279 and incorporated on July 9, 1941. EKPC is in good standing within and throughout the Commonwealth of Kentucky.

III. BACKGROUND

A. Overview of EKPC

5. EKPC is a not-for-profit, Member-owned generation and transmission rural electric cooperative corporation with its headquarters in Winchester, Kentucky. EKPC provides wholesale electricity to its sixteen Member distribution cooperatives, which in turn serve approximately 530,000 Kentucky homes, farms and commercial and industrial establishments in eighty-seven (87) Kentucky counties.

6. In total, EKPC owns and operates a total of approximately 2,955 MW of net summer generating capability and 3,257 MW of net winter generating capability. EKPC owns and operates coal-fired generation at Cooper Station in Pulaski County, Kentucky (341 MW) and Spurlock Station in Mason County, Kentucky (1,346 MW).[4] EKPC also owns and operates natural-gas fired generation at Smith Station in Clark County, Kentucky (753 MW (summer)/989

[4] The four coal-fired units at the Dale Station in Clark County, Kentucky have now been retired and taken out of service. Unit 1 and Unit 2 at the Dale Station were permanently taken out of service on April 15, 2015. Together these units had a combined capacity of 50 MW. Unit 3 and Unit 4 were placed in inactive status on April 15, 2016 and the EKPC Board voted in May 2016 to permanently retire the Units in light of existing federal environmental rules. The cumulative capacity of Unit 3 and Unit 4 was 149 MW.

MW (winter)) and Bluegrass Station in Oldham County, Kentucky (501 MW (summer)/567 MW (winter)), and landfill gas-to-energy facilities in Boone County, Kentucky (3 MW), Laurel County, Kentucky (3 MW), Greenup County, Kentucky (2 MW), Hardin County, Kentucky (2 MW), Pendleton County, Kentucky (3 MW) and Glasgow, Kentucky (1 MW). Finally, EKPC purchases hydropower from the Southeastern Power Administration at Laurel Dam in Laurel County, Kentucky (70 MW), and the Cumberland River system of dams in Kentucky and Tennessee (100 MW).

7. EKPC owns 2,940 circuit miles of high voltage transmission lines in various voltages. EKPC also owns the substations necessary to support this transmission line infrastructure. Currently, EKPC has seventy-four (74) free-flowing interconnections with its neighboring utilities. EKPC's transmission system is operated by PJM Interconnection, LLC ("PJM"), of which EKPC has been a fully-integrated member since June 1, 2013. PJM is a regional electric grid and market operator with operational control of over 180,000 MW of regional electric generation. It operates the largest capacity and energy market in North America. EKPC's record peak demand of 3,507 MW occurred on February 20, 2015. As its most recent Integrated Resource Plan demonstrates, EKPC anticipates growth in both its load and load factors over the next twenty years.

B. The Project

1. Description of the Community Solar Facility Project

8. The Project will be constructed at EKPC's headquarters location near Winchester, Kentucky. The community solar facility will be approximately 8.5 MW, which represents the total capacity of individual fixed (30,400 panels) and sun-tracking (1,900) solar panels. Each panel is rated at 335 Watts/DC. Said capacity will be available for reservation by EKPC's Members on a

first-come, first-served basis. EKPC's Members may then license their allotted capacity to their retail customers on a voluntary first-come, first-served basis.

9. Per the proposed Community Solar Tariff, participating retail customers may offset up to one hundred percent (100%) of their average annual consumption of electricity from the previous three (3) years. If the previous three (3) year usage data is not available, the data that is available will be used to determine the maximum offset the retail customer will be able to purchase. As set forth below, participating retail customers will receive credits on their energy bills for the energy output created by their proportional licensed share of the Project. Any unsubscribed capacity of the Project will be treated as an EKPC system resource. The Project is expected to have a capacity factor of approximately 20%.

10. The Project will directly connect to a substation owned and operated by EKPC (the "EKPC Office Substation"). Substation improvements that are attributable to the Project will be charged to the Project. A significant portion of the energy generated by the Project will not flow onto the electric transmission network, but will be absorbed by load at three EKPC-owned distribution substations connected via a radial transmission tap line to the Kentucky Utilities Company ("KU") transmission system. At times the Project may produce energy in excess of the demand at these three substations. Because a portion of the energy generated by the Project will flow onto the KU transmission system, EKPC has initiated two separate, but parallel, processes required by Louisville Gas & Electric/Kentucky Utilities ("LG&E/KU") for connection of small generators (those with maximum output of less than 20 MW) to its transmission systems. One is the Small Generator Interconnection Process, for which studies have been started by the LG&E/KU Independent Transmission Organization ("ITO"). The second is securing transmission service for the Project, which EKPC will use to deliver the excess output of the Project to other

EKPC load delivery points connected to the Louisville Gas & Electric ("LG&E") and/or KU transmission systems. The ITO has completed the transmission study for the transmission service request and has indicated to EKPC that no limitations were identified that would preclude granting the requested service. This will allow EKPC to designate the Project as a Network Resource and any energy leaving the Project and entering the KU transmission system will be transmitted by use of the Network Integration Transmission Service ("NITS") Agreement in place between EKPC and LG&E/KU. NITS billing is based on the amount of load demand at each delivery point at the time of the LG&E/KU monthly peak, so there will be no additional transmission service charges incurred by EKPC due to a portion of the output from the Project flowing into the KU system.

11. With regard to integrating the Project into PJM, EKPC (and, ultimately, the participating retail customers) will receive a capacity value and an energy payment. The capacity payment will be determined by applying the PJM-determined capacity value to the net installed capacity of the Project multiplied by the clearing price for capacity in the applicable Base Residual Auction in the applicable Delivery Year. The energy payment will be the value of the real-time locational marginal price ("LMP") for energy set by PJM at the EKPC Office Substation node during each hour of the day. The participating retail customers will also have the option to either retire or receive credit for the disposition of renewable energy credits associated with the operation of the Project, but this value will be determined separately from the Project's interaction with PJM.

12. The Project allows retail customers within EKPC's system to voluntarily participate in a renewable energy resource while capturing the benefits of economies of scale arising from construction of a larger facility. It also allows people who rent homes or who own homes that are not conducive to solar power generation to participate in a community solar project.

13. To understand and attract the reasonable, least-cost supply option for the Project, a request for proposals ("RFP") was issued in October 2015, on behalf of EKPC, by the National Renewables Cooperative Organization ("NRCO").[5] The RFP requested proposals to develop and build up to ten (10) MW of photovoltaic ("PV") solar-sourced power on one of two existing EKPC sites. The RFP stated that proposals with an expected commercial operation date of December 31, 2016 are preferred, which would allow the Project to potentially take advantage of certain federal tax incentives. However, EKPC is using an alternative financing option which makes the December 31, 2016 date less critical. The RFP stated that EKPC's first preference was for turn-key, Engineering/Procurement/Construction ("EPC") type arrangements (i.e., build/transfer) on one of the existing sites; however EKPC would consider other offers, including power purchase agreements. The RFP process utilized by NRCO to evaluate proposals determined whether the proposals were responsive to and compliant with the RFP; evaluated qualifying proposals from a technical, commercial and economic viewpoint; and determined which of the proposals was in the best interest of EKPC, in order to develop a short-list for negotiations. As a result of the RFP, EKPC received twelve (12) proposals.[6] Six (6) were selected for short-list negotiations. A summary of the bidding process and results are set forth in a report issued by NRCO on January 19, 2016.[7] EKPC has finalized and entered into a Turnkey Engineering, Procurement and Construction Agreement ("EPC Agreement") with Lendlease (US) Public Partnerships, LLC ("Lendlease"), to develop and construct the Project, provided that a CPCN is timely issued.[8]

[5] NRCO was formed by cooperatives across the country to facilitate the development and deployment of renewable energy resources. Membership is open to generation and transmission cooperatives and distribution cooperatives who have the legal ability to buy power in the wholesale market. EKPC is a member of NRCO.

[6] EKPC did not submit a self-supply bid.

[7] A copy of the NRCO Report is attached hereto and incorporated herein as Exhibit TB-2.

[8] A copy of the Lendlease EPC Agreement is attached hereto and incorporated herein as Exhibit DC-2.

2. Financing for the Project

14. Overall, the Project is estimated to cost $17,654,529. This consists of the costs enumerated in the EPC Agreement with Lendlease plus costs accrued directly by EKPC. The costs in the EPC Agreement have been adjusted for the fact that the quote included concrete foundations for 100% of the panels, while, with further testing, it is now estimated that this cost will only need to be incurred for about 20% of the panels. A detail of these costs is given in Exhibit TS-3. Thus, the cost per installed kW will be approximately $2,077 per kW. According to the Brattle Group, this capital cost is significantly less expensive than the cost of installing solar power generation for a single residential customer. Moreover, EKPC calculates that the future operations and maintenance expense of the Project will be $60,000 annually.[9] This should also offer a cost savings to participating retail customers over the life-cycle costs of installing and owning a single residence solar array.

15. EKPC intends to finance the solar facility using New Clean Renewable Energy Bonds ("New CREBS"). Under IRS rules, EKPC is a qualified issuer and a solar energy facility is a qualified project for New CREBS. For this type of financing, EKPC would issue taxable bonds directly to the National Rural Utilities Cooperative Financing Corporation ("CFC") at a market rate of interest and would receive a direct subsidy payment from the U.S. Treasury to offset this interest expense. The subsidy is set at 70% of the published IRS Tax Credit Bond Rate. The term of the loan can vary depending on the date of issue. As of June 7, 2016, the CFC bond rate was 4.00% and the subsidy was 2.99%, resulting in an effective rate of 1.01%, with an available term of up to 30 years.

[9] The estimate of future operations and maintenance expenses does not include the replacement of inverters. Whenever incurred, this cost would be amortized over the remaining life of the Project.

16. Other forms of financing were considered that would have attempted to take advantage of a federal tax credit that is available to qualified renewable energy projects, including a lease, power purchase agreement and tax-equity partnerships. None of these alternative options provided a significantly better net present value of future cash flows, but all of them entailed significant risks, complexity, and costs.

17. Based on the demographics of EKPC's Owner Members' Retail Customers, the subscription rate of the Project's Capacity should be a high percentage. The revenues resulting from the license agreements that EKPC's Members enter into with their participating retail customers will provide the funds necessary to repay the New CREBS obligation. In essence, participating retail customers will pay a fee to license each solar panel that they utilize. The license itself will be valid for twenty-five (25) years from the date of issuance. By using the licensing fee approach, EKPC expects that the participating retail customers will pay for the capacity and future operations and maintenance costs of the licensed portion of the Project without the need for subsidization from non-participating retail customers. The License Fee for a single panel will be $460.00.

3. Proposed Community Solar Tariff

18. EKPC is proposing a new wholesale Community Solar Tariff to facilitate the development and use of the Project.[10] Under the wholesale tariff, EKPC will offer capacity from the Project to EKPC's Members on a voluntary first-come, first-served basis. EKPC's Members may then license their subscribed capacity in the Project to their retail customers. Each Member electing to participate in the Project will file a retail Community Solar Tariff with the Commission

[10] The Proposed Wholesale Community Solar Tariff is attached as Exhibit DC-3.

in order to make the Project's capacity available to retail customers.[11] The retail Community Solar Tariff incorporates a standard Solar Panel License Agreement that will contain the terms and conditions of the license arrangement. According to the tariffs, each participating retail customer will effectively pay the initial capital cost of the Project, just as if their proportionate share of the solar panels had been installed on their residence or business. This will eliminate the potential for subsidization of participating retail customers by a Member's non-participating retail customers. To make the process for administering the licenses as simple and efficient as possible, EKPC is requesting approval of the wholesale Community Solar Tariff and the attached retail Community Solar Tariff and associated Solar Panel License Agreement. Each Member of EKPC that reserves a portion of the Project will first have to gain approval for the retail Community Solar Tariff and Solar Panel License Agreement, however, there must be uniformity across EKPC's Members for this Project to be workable. If there were any variations in the retail Community Solar Tariff or Solar Panel License Agreement, the ability to administer the licenses could quickly become administratively burdensome and cost-prohibitive.

19. Once the Project is operational, participating retail customers will receive a monthly credit on their electric bill which returns the value of their licensed capacity as well as the value of the energy associated with said capacity. Depending upon the retail customer's preference, they may also receive the value of the solar renewable energy credits (SRECs) associated with their licensed panel(s). The details of the bill credit are set forth in greater detail in the attached tariffs.

[11] A template for the proposed Retail Community Solar Tariff is attached hereto as Exhibit DC-4.

4. Additional Community Solar Benefits

20. The Project allows retail customers within EKPC's system to voluntarily participate in a renewable energy resource while capturing the benefits of economies of scale arising from construction of a larger facility. It allows retail customers to participate in a Community Solar Program even in situations where their personal residence or business would not be conducive to solar installations. The economic benefits of the Project to participating retail customers are further set forth in the Brattle Report.

C. Support for the Project

1. The Project is Consistent with EKPC's Strategic Plan

21. EKPC's 2015 Strategic Plan states that the Company's objective for generation and transmission assets is to optimize EKPC's assets to deliver reliable and affordable energy from appropriately diversified fuel sources, and work with federal and state stakeholders to ensure the economic viability of EKPC's existing and future resources to meet the challenges and opportunities surrounding climate change. In order to be successful in this endeavor, EKPC believes that one of the critical success factors is to pursue prudent diversification of the generation portfolio via increased integration of viable renewable resources. EKPC currently has the largest landfill gas generation fleet in the state and would like to continue its efforts to offer more types of renewable energy to its Members and their retail customers. The Project helps EKPC accomplish this objective.

2. The Project is Supported by EKPC's DSM Collaborative

22. The EKPC DSM Collaborative was a joint effort of EKPC, its 16 Members, the Sierra Club, the Kentucky Environmental Foundation and Kentuckians for the Commonwealth. The DSM Collaborative was established following EKPC's decision in late 2010 to cancel plans

to construct a coal-fueled power plant in Clark County, Kentucky, due to the changing economic conditions. The Collaborative met over a two-year period to evaluate and recommend actions for EKPC to expand deployment of renewable energy and demand-side management, and to promote collaboration among participants in the implementation of those ideas.

23. One of the recommendations from the Collaborative was to invest in, install and operate a solar photovoltaic farm.[12] The recommendation was to lease the solar panels to members at a one-time price through a 25-year agreement and to give a participating customer a monthly credit for the amount of electricity generated by the participating customer's panel(s).[13] EKPC has developed the Project with the DSM Collaborative's recommendation in mind and the Project will help achieve one of the DSM Collaborative's primary objectives.

3. Clean Power Plan

24. Generation and transmission cooperatives such as EKPC are among the most stringently environmentally regulated entities in the United States. The pace of revisions to federal environmental rules has increased substantially over the past decade and significantly impacted EKPC's business as a result. The Clean Power Plan, promulgated by the EPA under the authority of the CAA Section 111(d), is a rule designed to reduce greenhouse gas emissions from existing fossil fuel-fired electric generating units. It was finalized by notice issued on August 3, 2015, and became effective sixty (60) days upon publication in the Federal Register on October 23, 2015, before being stayed by the United States Supreme Court on February 9, 2016. The Clean Power Plan is perhaps the most important, challenging, costly and impactful environmental regulation faced by EKPC in its history.

[12] Demand Side Management and Renewable Energy Collaborative 2013 Annual Report, p. 9.

[13] *Id.*

25. Through the Clean Power Plan, the EPA is establishing carbon dioxide (CO_2) emission performance rates representing the best system of emission reduction for two subcategories of existing fossil fuel-fired electric generating units ("EGUs") – fossil fuel-fired electric utility steam generating units and stationary combustion turbines. The final rule establishes an emission performance rate of 1305 lbs. of CO_2 per net megawatt-hour ("MWh") for all affected steam EGUs nationwide and an emission performance rate of 771 lbs. of CO_2 per net MWh for all affected stationary combustion turbines nationwide. It should be noted that neither of these limits are capable of being met by either existing or new coal EGUs available in the market today.

26. The Clean Power Plan also establishes state-specific CO_2 goals reflecting the CO_2 emission performance rates, as well as guidelines for the development, submittal and implementation of state plans that set emission standards or other measures to implement the CO_2 emission performance rates. Although a full description of the wide-ranging and incredibly onerous provisions of the Clean Power Plan is not herein included, it is evident that environmental regulations affecting EKPC are both dynamic and increasingly stringent.

27. Even if the Clean Power Plan is ultimately upheld, it remains entirely unclear under what type of implementation plan Kentucky may operate. First, the state may choose to adopt and submit a State Implementation Plan ("SIP"), which could take one of two general forms. Kentucky may also refuse to submit a SIP, or submit a non-approvable SIP, thereby requiring the EPA to impose a federal implementation plan ("FIP") upon the state.[14] The nature and terms of a FIP

[14] During the 2014 Regular Session, the Kentucky legislature passed HB 388, which was subsequently signed by the Governor and is now codified at KRS 224.20-140 *et seq*. The law establishes criteria by which the Kentucky Energy and Environment Cabinet can establish performance standards for the regulation of carbon dioxide emissions from existing fossil fuel-fired electric generating units; moreover, the law restricts the ability of the Cabinet to submit a SIP to the EPA unless specific requirements are met. *See* KRS 224.20-145 (requiring, *inter alia*, that any SIP submitted to the EPA be prepared in consultation with the Commission to ensure that the plan minimizes the impacts on current and future industrial, commercial, and residential consumers and does not threaten the affordability of Kentucky's

applicable to Kentucky presents similar challenges with respect to uncertainty that a possible SIP presents, and it is safe to presume that the EPA may be less aware of and unresponsive to local priorities and statewide needs.

28. This Project will give EKPC valuable experience in working with solar as an intermittent renewable resource, in both a fixed-array and sun-tracking configuration. This experience could be very helpful in the future if EKPC decides to develop more renewable projects as part of future carbon reduction mandates.

D. Benefits of the Proposed Construction

29. In summary, there are many reasons why the proposed construction of the Project and the corresponding Community Solar Tariff are reasonable options including:

- Fulfilling the EKPC Board's Strategic Plan by diversifying EKPC's generation portfolio to become less reliant on coal-fired generation while adding to its renewable energy offerings to its Members and the Members' retail customers;
- Implementing recommendations from the DSM Collaborative;
- Keeping EKPC well-positioned to comply with existing and forthcoming environmental regulations such as the Clean Power Plan and similar mandates;
- Increasing access to renewable energy resources for those retail customers in the EKPC system who otherwise would not be able to install solar panels at their premises; and
- Providing an additional choice for retail customers who could install a rooftop solar system but for whom community solar is more convenient and/or more economical.

rates or the reliability of electricity service). The state's decision to submit a SIP, as well as the content of a SIP should one be submitted, will likely be significantly impacted by this law.

IV. REQUEST FOR A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY

30. EKPC respectfully requests the Commission to issue a CPCN for the construction of the Project in accordance with KRS 278.020(1). As set forth herein, EKPC has a need for the capacity this solar facility will generate and the community solar facility will not result in any wasteful duplication.[15] There is an inadequacy of existing renewable energy service involving a unique consumer market sufficiently large to make it economically feasible for the proposed community solar facility to be constructed by EKPC and operated as set forth herein. Likewise, the Project does not result in an excess of capacity over need, an excessive investment in relation to productivity or efficiency or an unnecessary multiplicity of physical properties.[16] EKPC has undertaken a thorough review of alternatives,[17] and, after balancing all factors, the construction of the Project is reasonable.[18]

31. The Commission has already applied these considerations in a case involving a proposed solar facility. In Case No. 2014-00002,[19] the Commission approved the Brown Station 10 MW Solar Facility for KU and LG&E. In that case, the Commission agreed with the applicants

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[15] *Kentucky Utilities Co. v. Pub. Serv. Comm'n*, 252 S.W.2d 885 (Ky. 1952).

[16] *See id.*

[17] *See In the Matter of the Joint Application of Louisville Gas and Electric Company and Kentucky Utilities Company for a Certificate of Public Convenience and Necessity for the Construction of Transmission Facilities in Jefferson, Bullitt, Meade, and Hardin Counties, Kentucky*, Order, Case No. 2005-00142 (Ky. P.S.C. Sept. 8, 2005).

[18] *See Kentucky Utilities Co. v. Pub. Service Comm'n*, 390 S.W.2d 168, 175 (Ky. 1965). *See also In the Matter of the Application of East Kentucky Power Cooperative, Inc. for a Certificate of Public Convenience and Necessity to Construct a 138 kV Transmission Line in Rowan County, Kentucky*, Order, Case No. 2005-00089 (Ky. P.S.C. Aug. 19, 2005).

[19] *In the Matter of the Joint Application of Louisville Gas & Electric Company and Kentucky Utilities Company for Certificates of Public Convenience and Necessity for the Construction of a Combined Cycle Combustion Turbine at the Green River Generating Station and a Solar Photovoltaic Facility at the E. W. Brown Generating Station*, Order, Case No. 2014-00002 (Ky. P.S.C. Dec. 12, 2014).

that the solar facility's relative small size meant that it would have a very minor impact on the revenue requirement of the utilities. The Commission also found that construction of the solar facility would allow the applicants to diversify their portfolio and give them the opportunity to gain operational experience in this type of resource. In approving the project, the Commission stated that "the selection of a proposal that ultimately costs more than an alternative [generation resource] does not necessarily result in wasteful duplication."[20] The estimated cost of the Brown Solar Facility was $36 million for a 10 MW facility.[21] EKPC believes its estimated cost of $17.7 million for its 8.5 MW solar facility is reasonable and favorably compares to the Brown Solar Facility. With the Project, EKPC will also gain valuable operational experience in solar energy in a manner that will have a very minor impact on EKPC's revenue requirement, even if the Project is not fully-licensed by retail customers. To the extent that any portion of the Project remains a system resource for EKPC, it will offer marginal fuel savings from displaced generation. The Project will also help to diversify EKPC's generation portfolio.

32. Pursuant to 807 KAR 5:001 Section 15(2)(a), the facts relied upon to show that the proposed acquisition is required by public convenience and necessity are those facts generally set forth in paragraphs one (1) to twenty-nine (29) of this Application.

33. Pursuant to 807 KAR 5:001 Section 15(2)(b), the Project does not involve or require any franchise or permit from a public authority.

34. Pursuant to 807 KAR 5:001 Section 15(2)(c), the community solar facility will be located at EKPC's headquarters at 4775 Lexington Road, Winchester, Clark County, Kentucky.

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[20] *Id.*, p. 12.

[21] *Id.*, p. 1.

The community solar facility will not compete with any other public utilities, corporations or persons.

35. Pursuant to 807 KAR 5:001 Section 15(2)(d)(1), an electronic copy (in a portable document format) and a paper copy of a map showing the location and layout of the community solar facility are attached hereto as Exhibit DC-5. This map is labeled to identify the location of facilities owned by other utilities that are anywhere within the map area with adequate identification as to the ownership of the other facilities and includes basic plans, specifications and drawings of the community solar facility and affected transmission line infrastructure. The map contains information that would be considered critical energy infrastructure information and is subject to a motion for confidential treatment filed herewith. Pursuant to 807 KAR 5:001 Section 22, EKPC respectfully requests a deviation from the filing requirement set forth in 807 KAR 5:001 Section 15(2)(d)(2) which requires EKPC to file the plans, specifications and drawings of the proposed plant, equipment and facilities that will comprise the community solar facility. As the Lendlease EPC Agreement is for the design and engineering work that will generate, such documents are not currently within EKPC's custody or control. Accordingly, EKPC is filing herewith a motion for a deviation from this filing requirement.

36. Pursuant to 807 KAR 5:001 Section 15(2)(e), EKPC has provided a detailed description of the plan to finance the proposed construction in paragraphs fourteen (14) to seventeen (17) of this Application.

37. Pursuant to 807 KAR 5:001 Section 15(2)(f), EKPC has provided the estimated annual cost of operation of the community solar facility upon the completion of the contemplated construction in paragraph fourteen (14) of this Application.

38. Pursuant to the Commission's mandate in Case No. 2008-00408,[22] EKPC states that it has integrated energy efficiency resources into its long-term energy supply plan and has adopted policies establishing cost-effective energy efficiency resources with equal priority as other resource options. The nature of this Project is consistent with EKPC's efforts to offer renewable energy resources as a complement to its energy-efficiency options.

V. REQUEST FOR APPROVAL TO ASSUME EVIDENCES OF INDEBTEDNESS

39. EKPC also respectfully requests the Commission to approve the assumption of certain evidences of indebtedness associated with the Project, pursuant to KRS 278.300.

40. Pursuant to 807 KAR 5:001 Section 18(1)(b), a general description of EKPC's property and the field of its operation is set forth in paragraphs five (5) to seven (7) of this Application. A schedule showing: (a) the original cost of EKPC's property; and (b) the cost of said property to EKPC, is attached hereto and incorporated herein as Exhibit TS-1 to the Testimony of Tom Stachnik.

41. Pursuant to 807 KAR 5:001 Section 18(1)(c) and (d), EKPC will offer New CREBS bonds as part of the construction, as set forth above. The New CREBS bonds will be secured by EKPC's Trust Indenture.

42. Pursuant to 807 KAR 5:001 Section 18(1)(e), a detailed description of the Project and assumed obligations that are to be acquired, along with the cost of same, are set forth in paragraphs eight (8) to seventeen (17) of this Application. EKPC states that the construction will enable EKPC to continue to provide adequate, efficient and reasonable service to its Members at rates that are fair, just and reasonable.

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[22] *See In the Matter of Consideration of the New Federal Standards of the Energy Independence and Security Act of 2007*, Rehearing Order, Case No. 2008-00408, p. 10 (Ky. P.S.C. July 24, 2012).

43. Pursuant to 807 KAR 5:001 Section 18(1)(f), EKPC states that the construction and financing will not result in the discharge or refund of any existing obligations of EKPC.

44. Pursuant to 807 KAR 5:001 Section 18(2)(a), a copy of the Financial Exhibit required by 807 KAR 5:001 Section 12 is attached hereto as Exhibit TS-2 to the Testimony of Tom Stachnik.

45. Pursuant to 807 KAR 5:001 Section 18(2)(b), EKPC states that copies of its existing trust deeds and mortgages have been most recently filed in Case No. 2012-00249.[23]

46. Pursuant to 807 KAR 5:001 Section 18(2)(c), EKPC states that maps and plans of the community solar facility are attached herein as Exhibit DC-5 to the Testimony of David Crews. An estimate of the Project's construction cost, using the uniform system of accounts prescribed for EKPC by the Commission, is attached hereto as Exhibit TS-3 to the Testimony of Tom Stachnik.

47. Pursuant to KRS 278.300(2), EKPC requests that the Commission find that the assumption of evidences of indebtedness is for some lawful object within the corporate purposes of EKPC, is necessary or appropriate for or consistent with the proper performance by EKPC of its service to the public and will not impair EKPC's ability to perform that service, and is reasonably necessary and appropriate for such purpose.

VI. REQUEST FOR APPROVAL OF WHOLESALE COMMUNITY SOLAR TARIFF AND RETAIL COMMUNITY SOLAR TARIFF TEMPLATE

48. Pursuant to KRS 278.180, EKPC is giving at least thirty (30) days' notice to the Commission of the proposed wholesale Community Solar Tariff and the new rates to be charged

[23] *See In the Matter of the Application of East Kentucky Power Cooperative, Inc. for Approval to Obtain a Trust Indenture*, Order, Case No. 2012-00249, (Ky. P.S.C. Aug. 9, 2012). A copy of the Trust Indenture was filed in the Post-Case Correspondence file on October 19, 2012.

under this Project. EKPC proposes that the wholesale Community Solar Tariff become effective on August 21, 2016.

49. Pursuant to 807 KAR 5:011 Section 8 (1), EKPC has posted a copy of the proposed wholesale Community Solar Tariff at its headquarters in Winchester, Kentucky, on the date this application was filed. EKPC has also posted a copy of the proposed wholesale Community Solar Tariff on its website on the date this application was filed and included a hyperlink to the Commission's website where this filing could be located. EKPC will keep the tariff posted until a final decision is made by the Commission in this matter.

50. Pursuant to 807 KAR 5:011 Section 8(2), EKPC gave notice to its sixteen Members by mailing a copy of the proposed wholesale Community Solar Tariff along with a cover letter containing all of the information required by 807 KAR 5:011 Section 8(4).

51. EKPC is also requesting approval of the template for the retail Community Solar Tariff, which includes the Solar Panel License Agreement, so that EKPC's Members might file a standard tariff and use a standard license agreement that will apply uniformly across the entire EKPC system. However, EKPC is not requesting that the retail Community Solar Tariff be effective until after such time as it has been filed by each participating Member, in accordance with the Commission's regulations concerning the filing of new tariffs. In the absence of approval of the retail Community Solar Tariff template, there is a significant risk that the Project may become administratively burdensome and unmanageable if each Member was required to develop and implement its own tariff and licensing agreement.

VII. OVERVIEW OF TESTIMONY

52. As part of its Application, EKPC is tendering herewith the testimony of four (4) witnesses who support the averments set forth herein.

53. Mr. David Crews, Senior Vice President of Power Supply, will describe EKPC's Strategic Plan, the DSM Collaborative, the CPP and the RFP process. Mr. Crews will also describe the proposed construction and the operation and maintenance of the proposed community solar facility and the accompanying wholesale and retail community solar tariffs. Mr. Crews' testimony is attached as Exhibit 1 to the Application.

54. Mr. Tom Stachnik, EKPC's Treasurer and Director of Finance, will offer testimony describing the financing plan for the Project. Mr. Stachnik's testimony is attached as Exhibit 2 to the Application.

55. Mr. Todd Bartling, NRCO's Vice President of Renewables Development, will offer testimony concerning the RFP process and summarize the basis for the recommendation to partner with Lendlease (US) Public Partnerships, LLC to develop the Project. Mr. Bartling's testimony is attached as Exhibit 3 to the Application.

56. Mr. Jamie Read, Ph.D, a principal with the Brattle Group, will offer testimony describing the economics of the Project. Mr. Read's testimony is attached as Exhibit 4 to the Application.

VIII. CONCLUSION

WHEREFORE, on the basis of the foregoing, EKPC respectfully requests the Commission to enter an Order approving this Application and:

1) Issuing a Certificate of Public Convenience and Necessity to EKPC to construct, own and operate the Project;
2) Authorizing the assumption of certain evidences of indebtedness necessary to close the transaction;

3) Approving the wholesale Community Solar Tariff and retail Community Solar Tariff template attached hereto;

4) Granting the relief requested herein on or before December 1, 2016; and

5) Granting any other relief to which EKPC may be entitled.

This 21st day of July, 2016.

VERIFICATION

COMMONWEALTH OF KENTUCKY)
COUNTY OF CLARK)

Comes now David Crews, Senior Vice President of Power Supply of East Kentucky Power Cooperative, Inc., in my official capacity, and, after being duly sworn, I do hereby solemnly swear that the averments set forth above are true and correct to the best of my knowledge and belief as of this 20th day of July, 2016.

DAVID CREWS, Senior Vice President of Power Supply East Kentucky Power Cooperative, Inc.

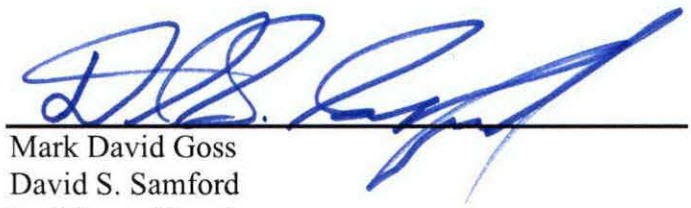
Signed before me, the NOTARY PUBLIC, by David Crews, Senior Vice President of Power Supply of East Kentucky Power Cooperative, Inc., after being duly sworn, on this 20th day of July, 2016.

NOTARY PUBLIC, Commission # 508144

My Commission Expires 11/30/17

GWYN M. WILLOUGHBY
Notary Public
State at Large
Kentucky
My Commission Expires Nov 30, 2017

Respectfully submitted,



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Index of Exhibits

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

THE APPLICATION OF EAST KENTUCKY POWER COOPERATIVE, INC. FOR ISSUANCE OF A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY, APPROVAL OF CERTAIN ASSUMPTION OF EVIDENCES OF INDEBTEDNESS AND ESTABLISHMENT OF A COMMUNITY SOLAR TARIFF	))))))	CASE NO. 2016-_____

DIRECT TESTIMONY OF DAVID CREWS
ON BEHALF OF EAST KENTUCKY POWER COOPERATIVE, INC.

Filed: July 21, 2016

I. Introduction

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

A. My name is David Crews and my business address is East Kentucky Power Cooperative, Inc. ("EKPC"), 4775 Lexington Road, Winchester, Kentucky 40391. I am Senior Vice President of Power Supply at EKPC.

Q. PLEASE BRIEFLY DESCRIBE YOUR EDUCATION AND PROFESSIONAL EXPERIENCE.

A. I hold a Bachelor's degree in Civil Engineering from North Carolina State University and am a registered professional engineer in North Carolina. Prior to joining EKPC, I served as Manager of Federal Regulatory Affairs at Progress Energy Service Co. I also served as the Director of Coal Marketing and Trading for Progress Fuels, and as Director of Power Trading Operations at Progress. I began working at EKPC in January of 2011; in all, I have more than 33 years of experience in the electric utility industry.

Q. PLEASE BRIEFLY DESCRIBE YOUR DUTIES AT EKPC.

A. Generally, I oversee EKPC's Power Supply, which includes the areas of Power Supply Planning, Load Forecasting, PJM Market Operations, Fuel Supply, development of Renewable Energy Projects, Demand Side Management and Energy Efficiency.

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

A. The purpose of my testimony is first to describe EKPC's power supply needs and the efforts it has undertaken in the past four years to address those needs. I will

explain EKPC's proposed construction of the community solar facility at EKPC's headquarters located in Winchester, Kentucky ("Project"), address the various aspects of the proposed construction, and describe the analyses performed by EKPC and its consultants with respect to the proposed construction. I will also discuss EKPC's Strategic Plan, the DSM Collaborative and its recommendations, the Clean Power Plan and the RFP process – as they relate to the Project. Finally, I will testify as to the anticipated operation and maintenance of the Project, the proposed tariffs associated with the Project and I will provide the basis for EKPC's conclusion that the proposed construction is a reasonable option for satisfying EKPC's needs.

Q. ARE YOU SPONSORING ANY EXHIBITS?

A. Yes. I am sponsoring the following exhibits, which I ask be incorporated into my testimony by reference:

- Exhibit DC-1, EKPC DSM Collaborative 2013 Annual Report;
- Exhibit DC-2, Turnkey Engineering, Procurement and Construction Agreement with Lendlease (US) Public Partnerships, LLC (June 30, 2016)
- Exhibit DC-3, Proposed Wholesale Community Solar Tariff;
- Exhibit DC-4, Proposed Retail Community Solar Tariff;
- Exhibit DC-5, Map and Plans of the Community Solar Facility.

Each of these exhibits was prepared by me, under my supervision, or at my request.

II. Existing Generation Portfolio and Identification of Need

Q. PLEASE GENERALLY DESCRIBE EKPC'S EXISTING GENERATION PORTFOLIO.

A. In total, EKPC owns or purchases a total of approximately 2,955 MW of net summer generating capability and 3,257 MW of net winter generating capability. EKPC owns and operates coal-fired generation at Cooper Station in Pulaski County, Kentucky (341 MW) and Spurlock Station in Mason County, Kentucky (1,346 MW). EKPC also owns and operates natural-gas fired generation at Smith Station in Clark County, Kentucky (753 MW (summer)/989 MW (winter)), Bluegrass Station in Oldham County, Kentucky (501 MW (summer)/567 MW (winter)) and landfill gas-to-energy facilities in Boone County, Kentucky (3 MW), Laurel County, Kentucky (3 MW), Greenup County, Kentucky (2 MW), Hardin County, Kentucky (2 MW), Pendleton County, Kentucky (3 MW) and Glasgow, Kentucky (1 MW). Finally, EKPC purchases hydropower from the Southeastern Power Administration at Laurel Dam in Laurel County, Kentucky (70 MW), and the Cumberland River system of dams in Kentucky and Tennessee (100 MW).

Q. IN WHAT WAYS DOES EKPC PLAN FOR ITS FUTURE POWER SUPPLY NEEDS?

A. Like any prudent utility, EKPC constantly strives to anticipate the challenges it may face over both the near- and long-term. As part of this process, EKPC regularly conducts and reviews load and pricing forecasts, prepares for environmental developments, and evaluates the impact various factors may have on the Cooperative's existing generation portfolio and overall financial stability. EKPC's Board of Directors, through its Strategic Plan, provides particular guidance in identifying and achieving EKPC's future goals.

Q. DOES EKPC HAVE A STRATEGIC PLAN CURRENTLY IN PLACE?

A. Yes. Following a Commission-directed management audit, EKPC's Board adopted a Strategic Plan in 2011 that identified various core strategies, including but not limited to pursuing prudent diversity in the fuel mix of the Cooperative's generation portfolio and evaluating new investments using sound financial principles. EKPC has convened Strategic Planning retreats annually since 2011, with the most recent being held in 2015. Generation diversity remains a cornerstone of the current Strategic Plan. The addition of the Project by EKPC will help create more diversity within EKPC's generation portfolio.

Q. DOES EKPC BELIEVE ITS EXISTING GENERATION PORTFOLIO WILL ADEQUATELY PROVIDE FOR ITS LONG-TERM NEEDS?

A. No. EKPC is an electric generation and transmission cooperative with a growing demand for electricity within its service territory. In addition, the increasing integration of the regional electric transmission system, two consecutive winters with extremely cold temperatures, the ongoing nationwide shift in electric generation fuel sources away from coal and toward natural gas, and the unprecedented, rapid expansion of stringent federal environmental regulation affecting utilities all combine to make the ownership of electric generation a continuous consideration with thorough evaluation for EKPC.

Q. PLEASE GENERALLY DESCRIBE EKPC'S ENERGY NEEDS AS REFLECTED IN ITS MOST-RECENT INTEGRATED RESOURCE PLAN.

A. On April 21, 2015, EKPC filed its most recent triennial Integrated Resource Plan ("2015 IRP"), which analyzed EKPC's forecasted load, capacity needs and related issues over a twenty-year period from 2015 through 2034. The 2015 IRP indicates

that EKPC's total energy requirement will increase by 1.4% per year over a twenty year period. Reflecting EKPC's status as a winter-peaking utility, the 2015 IRP indicates that EKPC's winter net peak demand will increase 1.0% annually while its summer net peak demand will increase by 1.5% annually. Also, the 2015 IRP predicts that EKPC's annual load factor would increase from 48% to 51%. The Project will help satisfy the need for EKPC's increasing demand without resulting in excessive investment or wasteful duplication.

Q. HAVE FEDERAL ENVIRONMENTAL REGULATIONS HAD A PARTICULARLY SIGNIFICANT IMPACT ON EKPC'S GENERATION PORTFOLIO AND POWER SUPPLY PLANNING?

A. Yes. Generation and transmission cooperatives such as EKPC are among the most stringently environmentally regulated entities in the United States. The pace of revisions to federal environmental rules has increased substantially over the past decade and significantly impacted EKPC's business as a result. There can be no doubt that the Environmental Protection Agency's Mercury and Air Toxics Standards ("MATS"), Effluent Limitation Guidelines ("ELG"), and Disposal of Coal Combustion Residuals from Electric Utilities Rule ("CCR") have presented numerous challenges to EKPC. The Clean Power Plan is perhaps the most important, challenging, costly and impactful environmental regulation faced by EKPC in its history. Through the Clean Power Plan, the EPA is establishing carbon dioxide (CO_2) emission performance rates representing the best system of emission reduction for two subcategories of existing fossil fuel-fired electric generating units ("EGUs") – fossil fuel-fired electric utility steam generating units and stationary

combustion turbines. The final rule establishes an emission performance rate of 1305 lbs. of CO_2 per net megawatt-hour ("MWh") for all affected steam EGUs nationwide and an emission performance rate of 771 lbs. of CO_2 per net MWh for all affected stationary combustion turbines nationwide. It should be noted that neither of these limits are capable of being met by either existing or new coal EGUs available in the market today. The Clean Power Plan also establishes state-specific CO_2 goals reflecting the CO_2 emission performance rates, as well as guidelines for the development, submittal and implementation of state plans that set emission standards or other measures to implement the CO_2 emission performance rates. Even if the Clean Power Plan is ultimately upheld, it remains entirely unclear under what type of implementation plan Kentucky may operate. First, the state may choose to adopt and submit a state implementation plan ("SIP"), which could take one of two general forms. Kentucky may also refuse to submit a SIP, or submit a non-approvable SIP, thereby requiring the EPA to impose a federal implementation plan ("FIP") upon the state. The nature and terms of a FIP applicable to Kentucky presents similar challenges with respect to uncertainty that a possible SIP presents, and it is safe to presume that the EPA may be less aware of and unresponsive to local priorities and statewide needs.

Q. PLEASE DESCRIBE THE DSM COLLABORATIVE AND ITS RECOMMENDATION REGARDING A COMMUNITY SOLAR FACILITY?

A. The EKPC DSM Collaborative was a joint effort established by EKPC in 2011 after EKPC's decision in late 2010 to cancel plans to construct a coal-fueled power plant

in Clark County, Kentucky. The DSM Collaborative consisted of EKPC, its 16 Members, the Sierra Club, the Kentucky Environmental Foundation and Kentuckians for the Commonwealth. The DSM Collaborative met over a two-and-a-half year period to evaluate and recommend actions for EKPC to expand deployment of renewable energy and demand-side management. One of the recommendations of the Collaborative was for EKPC to install and operate a solar photovoltaic ("PV") facility. The recommendation included leasing the solar panels to the Members' retail customers and for the Members' retail customers to receive a monthly credit for the amount of electricity generated by the panel.

III. The Project

Q. PLEASE GENERALLY DESCRIBE THE PURPOSE OF THE RFP PROCESS.

A. The purpose of the RFP was to understand and attract the reasonable, least-cost supply option for the Project. An RFP was issued in October 2015 by National Renewables Cooperative Organization ("NRCO") on behalf of EKPC. The RFP requested proposals to develop/build up to 10 MW of PV solar-sourced power on one of two existing EKPC sites. A more detailed explanation of the RFP process is included in Todd Bartling's testimony.

Q. PLEASE DESCRIBE THE PROPOSED PROJECT.

A. The Project will be comprised of 30,400 fixed solar panels and 1,900 sun-tracking solar panels. The total capacity of the Project will be 8.5 MW AC. Each solar panel will be capable of producing approximately 335 Watts DC. The proposed Project will be built on EKPC's existing property at its headquarters located in

Winchester, Kentucky. The estimated construction cost of the project is $17.7 million. The Project will be available to EKPC's Members on a voluntary, first-come, first-served basis. EKPC has proposed a new wholesale community solar tariff for this Project, which is attached to my testimony as Exhibit DC-3. The participating Members can then license the solar panels to their retail customers on a voluntary, first-come, first-served basis. Each participating Member will file a retail community solar tariff for approval by the Commission if the CPCN is granted for the Project. A template for the retail community solar tariff is attached to my testimony as Exhibit DC-4.

Q. WHO WILL OWN THE COMMUNITY SOLAR FACILITY?

A. The Project will be owned by EKPC. EKPC will allow its sixteen Owner-Members to reserve a portion of the capacity, which they can then license to their retail members.

Q. HAS EKPC ANALYZED ITS CUSTOMER BASE TO DETERMINE IF THE PROJECT WILL BE SUPPORTED BY RETAIL CUSTOMERS?

A. Yes. In 2013, EKPC engaged NRECA Market Research Services to conduct a market research study on behalf of the joint Renewable Energy and Demand Side Management Collaborative to identify those groups of customers who were most and least likely to participate in renewable energy and energy efficiency programs offered through EKPC. The research was completed in two phases. The first phase was a series of forty-nine (49) in-depth, one-on-one qualitative interviews conducted in person with residential consumer members of five of EKPC's distribution systems in distinct regions within the utilities' service territory. Each

interview averaged approximately 45 minutes in length and, consistent with market research industry practice, consumers were paid an honorarium for their participation. These interviews explored consumers' thoughts about a wide range of energy issues including the current energy situation, energy independence, pollution, energy supply, as well as their understanding of how the electricity they receive from their co-op is generated and their views regarding the energy efficiency and renewable energy programs currently offered by their electric utility. This first phase of the research identified the key factors which significantly impact a consumer's likelihood of enrolling in these programs.

The second, quantitative phase of the research built upon the insights gained in phase one to assess the degree to which those views were widely shared by a representative group of 837 residential consumers across 14 distribution co-op territories within the EKPC system. Additionally, phase two used advanced multivariate statistical analysis to identify and develop profiles of five distinct attitudinal segments of consumers within EKPC's consumer population based upon their views regarding the range of energy related issues explored in phase one. These statistically derived segments are very helpful in identifying those individuals likely to be most and least interested in participating in renewable energy and energy efficiency programs. In addition to identifying and describing the five segments, the research also provided a projectable assessment of the segment composition of EKPC's residential membership.

Using the segmentation study results, it is possible to identify the target market for EKPC's new solar program and the best media to use to promote the

program. Two of the segments identified would be the best candidates for participation in EKPC's solar program. Both expressed strong interest in reducing pollution by minimizing the amount of energy wasted and moving to more sustainable/renewable energy sources. These segments, designated as "Actively Green" (17%) and "Conveniently Green" (17%) together comprise about one third of EKPC's residential consumer base.

Of the two, Actively Green is the more likely audience to actively embrace the solar program. The Actively Green consumers are concerned about helping the planet for future generations and as the name implies, they are actively looking for ways they can work to improve the environment, and are quite willing to make significant changes in their lifestyle to do so. Additionally, they are the segment of consumers with the highest median income. Conveniently Green consumers are also concerned about helping the planet, but less likely to make significant ongoing changes to their lifestyle to do so. Their interest in renewables and energy efficiency is more closely tied to saving money on their bill than is that of Actively Greens. One other segment who would likely have an interest in participating in the solar program is the "Indifferent Techies" who would be drawn to the program primarily because it is new technology rather than an avid environmental interest. Indifferent Techies also have a healthy household income. They represent about 21% of EKPC's residential consumer base. So collectively about 55% of the membership may be receptive to exploring the possibility of participating in a community solar program.

Adoption and participation rates in new products or services are very difficult to precisely predict, however, one way to approach it using the segmentation model would be to first estimate the number of consumers in each of the three segments most likely to be interested in the programs. Actively Greens (17% of EKPC's approximately 530,000 residential consumer base) are estimated to number 90,100. Conveniently Greens also account for 17% of the membership or another 90,100 consumers. Indifferent Techies represent 21% of the membership or an estimated 111,300 consumers.

Using a range of conservative to optimistic projections will provide some insights as to potential participation levels (all of these assume a comprehensive marketing and joint promotion effort from both EKPC and the public interest groups in the collaboratives).

If optimistically, 10% of Actively Greens (9,010 consumers), 5% of Conveniently Greens (4,505 consumers) and 2% of Indifferent Techies (2,226 consumers) were to enroll in the program this would represent over 15,000 consumers (15,741). If more conservatively, 5% of Actively Greens (4,505 consumers), 2.5% of Conveniently Greens (2,252 consumers) and 1% of Indifferent Techies (1,113 consumers) were to enroll, this would represent over 7,500 consumers (7,870). It is also important to keep in mind that product adoption occurs over time as it takes time for awareness of the programs to spread.

Q. ARE THERE LIMITATIONS ON THE ABILITY OF A UTILITY TO USE THIS TYPE OF ANALYSIS TO DETERMINE WHETHER ANY PROJECT

WILL ULTIMATELY BE SUPPORTED BY CUSTOMER PARTICIPATION?

A. Like all forms of analysis, there are some limitations on market research studies because assessing the potential participation rate in any new product or service is an inexact science for a number of reasons. First, irrespective of how much prior market research is completed among the target audience, the success of the launch hinges primarily upon making consumers aware of and familiar enough with the offering to even consider it. Second, the promotion of the product/service must be compellingly presented, highlighting the features and benefits that are most important to the consumer. Third, attitudinal market research assumes both that the respondent is truthful in their responses and actually acts the way they say they will, unfortunately this isn't always the case. Perhaps the biggest factor that complicates making projections in this case, is that the research done in 2013 did not quantitatively gauge consumers' potential interest in participating in the community solar licensing program (the only renewable programs tested were the EnviroWatts program and donations made for renewable energy), however, we did explore consumers' perceptions of the program in the qualitative stage.

Q. WHAT APPROVALS OR CONSENTS ARE NECESSARY IN ORDER FOR THE PROPOSED TRANSACTION TO BE CONSUMMATED?

A. EKPC has already received Board approval for the Project. The only approval remaining is for approval of this Application.

IV. Wholesale Community Solar Tariff

Q. PLEASE SUMMARIZE THE WHOLESALE COMMUNITY SOLAR TARIFF PROPOSED IN THIS CASE.

A. The community solar facility will be made available to EKPC's Member Cooperatives (for the benefit of their retail members) on a voluntary basis, upon request, and on a first-come, first-served basis up to a cumulative capacity of 8.5 MW AC. Each Member Cooperative shall remit to EKPC a license fee of $460.00, to be collected from each participating retail customer upon the retail customer's entry into a License Agreement for a portion of the capacity of the Project. The license fee shall equal the net present value of the capital cost of each participating retail customer's percentage of the solar generating facility. Any reserved portion of the Project that is not licensed by a Member will be returned to EKPC and made available to other Members.

A retail member may offset up to one hundred percent (100%) of his or her energy consumption based on the average annual consumption of electricity from the previous three (3) years. If the previous three (3) year consumption data is not available, the data that is available will be used to determine the maximum offset the retail member will be able to purchase. Participating Member Cooperatives will be credited monthly by EKPC for the hourly volume of electric power produced by solar panels licensed by the participating Member Cooperative's participating retail members at the real-time locational marginal price for energy set by PJM at the EKPC Office Substation node during each hour of the day. They will also receive a prorated credit for the value of the solar capacity in the PJM capacity market. Should the Member Cooperative's participating retail member decide to monetize

the value of the Solar Renewable Energy Credits or any other environmental attributes (SRECs), a credit for the SRECs sold in the previous year will be distributed on a prorated monthly basis. At no time shall EKPC or the Member Cooperative be required to convert the billing credit to cash.

V. Retail Community Solar Tariff

Q. PLEASE DESCRIBE THE RETAIL COMMUNITY SOLAR TARIFF TEMPLATE PROPOSED IN THIS CASE.

A. The retail community solar tariff template provided as Exhibit DC-4 to my testimony, provides that a Member Cooperative will offer its capacity to its retail customers on a first-come, first-served basis. Each retail customer participating in this program shall enter into a License Agreement, for a percentage of the Project from the Member Cooperative for a term of twenty-five (25) years. Each such retail customer shall pay to Member Cooperative a license fee of $460.00 per panel upon entering into a License Agreement for a portion of the capacity of the Project. The license fee shall equal the net present value of the capital cost of each participating end-use member's percentage of the solar generating facility.

As stated earlier, a participating retail customer may offset up to one hundred percent (100%) of his or her energy consumption based on the average annual consumption of electricity from the previous three (3) years. If the previous three (3) year consumption data is not available, the data that is available will be used to determine the maximum offset the retail customer will be able to purchase. Participating retail customers will be credited monthly by the Member Cooperative for the electric power produced by solar panels licensed by the participating retail

customer in an amount equal to that which EKPC credits the Member for the participating retail customer's proportion of the Project's energy, capacity and SREC revenue. Based upon the retail customer's election, EKPC will have authority either to retire or sell SRECs and will be responsible for retiring or selling the SRECs associated with energy generated by the solar generation facility. EKPC will monetize any SRECs that are sold and will issue a corresponding credit to the participating Member Cooperative for the proceeds of such sale, which the Member Cooperative will include as a credit on the participating Customer's electric bill. The proceeds of all SRECs disposed of by EKPC will accumulate over a calendar year and will be credited to the Member Cooperative in equal installments over a twelve (12) month period beginning on April 1st of the following year, along with interest on the proceeds accrued at the rate set forth by the Commission for customer deposits. At no time shall the Member Cooperative be required to convert the Billing Credit to cash.

Q. WHAT HAPPENS TO ANY PORTION OF THE PROJECT THAT ULTIMATELY IS NOT LICENSED TO A PARTICIPATING RETAIL CUSTOMER?

A. In the event that any portion of the Project is not licensed to a participating retail customer, it will remain an EKPC system resource. While this could result in EKPC's Members paying for a portion of the Project through base rates at the conclusion of EKPC's next base rate case, the amount of capital costs and O&M costs involved are minimal. Given that some portion of the Project will be licensed

and that the capital expenditure is small, EKPC expects the Project to have no discernible impact upon its Members' rates.

VI. Additional Benefits of the Project

Q. HOW WILL THE PROPOSED CONSTRUCTION BENEFIT EKPC AND THE MEMBERS IT SERVES?

A. There are numerous ways the Project will benefit EKPC, its Owner-Members, and the retail customers. Among other things, the proposed construction will: (i) aid in fulfilling EKPC Board's Strategic Plan by diversifying EKPC's generation portfolio to become less reliant on coal-fired generation while adding to its renewable energy offerings to its Members and the Members' retail customers; (ii) implement recommendations from the DSM Collaborative; (iii) keep EKPC well-positioned to comply with existing and forthcoming environmental regulations, such as the CPP, and mandates; (iv) increase access to renewable energy resources for those retail customers in the EKPC system who otherwise would not be able to install solar panels at their premises; (v) give EKPC experience in working with solar power; and (vi) providing an additional choice for retail customers who could install a rooftop solar system but for whom community solar is more convenient and/or more economical.

VII. Transmission Overview and Operation

Q. PLEASE BRIEFLY DESCRIBE THE TRANSMISSION ASSETS THAT EKPC WILL HAVE TO CONSTRUCT AS PART OF THE PROJECT.

A. EKPC will modify a substation at its headquarters, ("EKPC Office Substation"), into which the Project will directly connect. The EKPC Office Substation is owned

and operated by EKPC. The EKPC Office Substation can be optimized through certain improvements and the Project provides a convenient opportunity for making these improvements. Substation improvements that are attributable to the Project will be assigned to the Project.

Q. HAS EKPC REQUESTED TRANSMISSION SERVICE THROUGH KU/LG&E FOR THE OUTPUT OF THE PROJECT?

A. Yes. A significant portion of the energy generated by the Project will not flow onto the bulk electric system, but will be absorbed by load at three EKPC-owned distribution substations connected via a radial transmission tap line to the Kentucky Utilities Company ("KU") transmission system. It is possible that at times the Project may produce energy in excess of the demand at these three substations. Because a portion of the energy generated by the Project will flow onto the KU transmission system, EKPC has initiated two separate, but parallel, processes required by Louisville Gas & Electric/Kentucky Utilities ("LG&E/KU") for connection of small generators (those with maximum output of less than 20 MW) to its transmission systems. One is the Small Generator Interconnection Request process, for which studies have been started by the LG&E/KU Independent Transmission Organization ("ITO"). The second is securing transmission service for the Project, which EKPC will use to deliver the excess output of the Project to other EKPC load delivery points connected to the Louisville Gas & Electric ("LG&E") and/or KU transmission systems. The ITO has completed the transmission study for the transmission service request and has indicated to EKPC

that no limitations were identified that would preclude granting the requested service.

Q. WILL THE FINALIZED TRANSMISSION SERVICE WITH RESPECT TO THE PROJECT NECESSITATE THE REVISION OF THE NETWORK INTEGRATED TRANSMISSION SERVICE AGREEMENT IN PLACE BETWEEN EKPC AND KU/LG&E?

A. Yes. EKPC will designate the Project as a Network Resource and any energy leaving the Project and entering the KU transmission system will be transmitted by use of the existing Network Integration Transmission Service ("NITS") Agreement in place between EKPC and LG&E/KU. NITS billing is based on the amount of load demand at each delivery point at the time of the LG&E/KU monthly peak, so there will be no additional transmission service charges incurred by EKPC due to a portion of the output from the Project flowing into the KU system.

Q. DOES THE REVISED NITS AGREEMENT REQUIRE APPROVAL FROM ANY REGULATORY BODY?

A. Yes. The NITS Agreement between EKPC and LG&E/KU is governed by the Federal Energy Regulatory Commission ("FERC"), and LG&E/KU will file the revised NITS Agreement for approval. This is expected to be a filing that is strictly ministerial in nature.

Q. HOW WILL THE PROJECT BE INTEGRATED INTO PJM?

A. EKPC, and ultimately the participating retail customers, will receive a capacity payment and an energy payment from PJM. The capacity payment will be determined by applying the PJM-determined capacity value from the applicable

Base Residual Auction to the net installed capacity of the Project multiplied by the clearing price for capacity in the applicable Delivery Year. The energy payment will be the value of the real-time locational marginal price for energy set by PJM at the EKPC Office Substation node during each hour of the day. Although the participating retail customers may also elect to receive credit for the disposition of renewable energy credits associated with the operation of the Project, this value will be determined separately from the Project's interaction with PJM.

VIII. Conclusions

Q. DOES EKPC HAVE A NEED FOR THE PROJECT?

A. Yes. In light of recent winter load experiences, EKPC's anticipated load growth, the existing and projected volatility of the market in general, the expressed interest of Members' consumers, Members' commercial businesses that have sustainability goals and other identified reasons, there is an inadequacy of existing service involving a consumer market sufficiently large to make it economically feasible for the Project to be acquired by EKPC and operated as a system resource. The identified inadequacy is due to a substantial deficiency of service facilities, beyond what could be supplied by normal improvements in the ordinary course of business. Likewise, the Project acquisition does not result in an excess of capacity over need, an excessive investment in relation to productivity or efficiency or an unnecessary multiplicity of physical properties.

Q. ARE THERE ANY OTHER REASONS WHY EKPC IS PROPOSING TO CONSTRUCT THE PROJECT?

A. Yes. EKPC believes that it is prudent to construct the Project to expand its renewable energy portfolio. In light of the fact that the price of solar panels have declined and because EKPC has access to favorable Clean Renewable Energy Bond financing and renewable energy credits, it is now more feasible to construct a facility of this kind to offer to EKPC's Members and their retail customers. The fact that the Project will be built on property already owned by EKPC and the likelihood of future carbon constraints are also reasons why EKPC believes it is prudent to construct this facility and gain valuable experience in the operations of such a facility.

Q. DOES EKPC BELIEVE ITS PROPOSED COMMUNITY SOLAR PROJECT IS A FINANCIALLY SOUND AND PRUDENT INVESTMENT?

A. Yes. EKPC's internal analysis, as well as the independent analyses of EKPC's third-party consultants (*e.g.*, The Brattle Group and National Renewables Cooperative Organization) confirm that the proposed community solar project will add value to EKPC's system, benefit EKPC's Owner-Members, provide lasting economic value, be less expensive for retail members than installing a single residential solar array and diversify EKPC's generation portfolio, all without a significant impact to its non-participating customers.

Q. HAS THE KENTUCKY PUBLIC SERVICE COMMISSION APPROVED ANY SOLAR FACILITIES?

A. Yes. The Kentucky Public Service Commission approved an approximate 10 MW solar facility for LG&E/KU, to be located at KU's E.W. Brown Generating Station,

in Case Number 2014-00002. The Brown Solar Facility is a system resource for LG&E/KU.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes.

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

THE APPLICATION OF EAST KENTUCKY POWER COOPERATIVE, INC. FOR ISSUANCE OF A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY, APPROVAL OF CERTAIN ASSUMPTION OF EVIDENCES OF INDEBTEDNESS AND ESTABLISHMENT OF A COMMUNITY SOLAR TARIFF	)	CASE NO. 2016-_____

VERIFICATION OF DAVID CREWS

COMMONWEALTH OF KENTUCKY)
)
COUNTY OF CLARK)

David Crews, Senior Vice President of Power Supply at East Kentucky Power Cooperative, Inc., being duly sworn, states that he has read the foregoing prepared direct testimony and that he would respond in the same manner to the questions if so asked upon taking the stand, and that the matters and things set forth therein are true and correct to the best of his knowledge, information and belief.

David Crews

The foregoing Verification was signed, acknowledged and sworn to before me this 15th day of July, 2016, by David Crews.

Teri K. Combs
NOTARY PUBLIC, Notary # 479010
Commission expiration: 12/20/2016

EXHIBIT DC-1

EKPC DSM COLLABORATIVE
2013 ANNUAL REPORT

Demand Side Management and Renewable Energy Collaborative

2013 Annual Report

EAST KENTUCKY POWER COOPERATIVE

A Touchstone Energy® Cooperative

DSM/Renewable Energy COLLABORATIVE

Collaborative's Purpose

"The purpose of the Collaborative shall be to evaluate and recommend actions to expand deployment of renewable energy and demand-side management, and to promote collaboration among the Parties in the implementation of those ideas. … The Collaborative shall use [study results] to evaluate potential sources of renewable energy for use on EKPC's system along with demand-side management strategies, and recommend which would be commercially applicable, financially beneficial and viable for EKPC's customers."

- *From the charter of the East Kentucky Power Cooperative Demand-Side Management and Renewable Energy Collaborative*

Table of Contents

About the EKPC Demand Side Management and Renewable Energy Collaborative

By Tona Barkley, Collaborative Vice Chairwoman & Nick Comer, EKPC


The EKPC Demand Side Management and Renewable Energy Collaborative is a joint project of East Kentucky Power Cooperative (EKPC), its 16 owner-member distribution cooperatives, the Sierra Club, the Kentucky Environmental Foundation and Kentuckians For The Commonwealth.

The group met over a two-and-a-half year period to evaluate and recommend actions for EKPC to expand deployment of renewable energy and demand-side management, and to promote collaboration among participants in the implementation of those ideas. Demand-side management (DSM) refers to programs designed to encourage consumers to improve energy efficiency and modify their pattern of electricity usage.

The Collaborative was established following EKPC's decision in late 2010 to cancel plans to construct a coal-fueled power plant in Clark County, Ky., due to changing economic conditions. In cancelling the plant, EKPC entered a settlement agreement which set the framework for the Collaborative. The agreement also called for a group of environmentalist organizations to drop eight litigation matters and other regulatory challenges against EKPC targeting coal-fueled plants.

The Collaborative's DSM Work Group has reviewed: EKPC's current offerings and participation levels in DSM/direct load control programs; best practices in DSM; on-bill financing for DSM investments; revenue impact of DSM programs on distribution cooperatives; rate treatment of DSM programs, including rate design; job-creation potential of energy efficiency programs; and use of home-energy displays and emerging technologies to facilitate energy efficiency.

The Renewable Energy Work Group has reviewed: renewable technologies with the greatest economic viability; methods for cost recovery; and impacts on ratepayers.

The Collaborative is made up of representatives of 17 electric cooperatives, three environmental advocacy organizations and other interested stakeholders. Members include:

- Appalachia - Science in the Public Interest – Andy McDonald
- Big Sandy RECC – Jeff Prater
- Blue Grass Energy Cooperative – Mike Williams
- Clark Energy Cooperative – Scott Sidwell
- Cumberland Valley Electric – Robert Tolliver
- East Kentucky Power Cooperative – Scott Drake
- Farmers RECC – Chuck Bishop
- Fleming-Mason Energy – Joni Hazelrigg
- Frontier Housing – Josh Trent
- Grayson RECC – Kim Bush
- Inter-County Energy Cooperative – David Phelps
- Jackson Energy Cooperative – Sharon Carson
- Kentuckians For The Commonwealth – Steve Wilkins
- Kentucky Environmental Foundation – Elizabeth Crowe
- Licking Valley RECC – Maudie Nickell
- Mountain Association for Community Economic Development – Carrie Ray

COLLABORATIVE

Front row, from left: Sara Pennington, Steve Wilkins, Candi Waford, Elizabeth Crowe, Josh Bills

Middle row, from left: Sharon Carson, Chuck Bishop, Vice-Chair Tona Barkley, Ginger Watkins, Kim Bush, Maudie Nickell, Ann Beard, Rick Ryan

Back row, from left: Mark Stallons, Chairman David Crews, Scott Drake, Mike Williams, Wallace McMullen, Larry Hicks, David Phelps, Alan Coffey

Not pictured: Tom Carew, Jay Hampton, Joni Hazelrigg, Jeff Prater, Scott Sidwell

- Nolin RECC – Rick Ryan
- Office of the Kentucky Attorney General – Dennis Howard/Larry Cook
- Owen Electric Cooperative – Mark Stallons
- Salt River Electric – Larry Hicks
- Shelby Energy Cooperative – Candi Waford
- Sierra Club – Wallace McMullen
- South Kentucky RECC – Alan Coffey
- Taylor County RECC – Ann Beard
- Member At Large – Ginger Watkins
- Gallatin Steel was invited to participate.

In addition to the above decision-making members, the following individuals were added to the work groups with the approval of the chair and vice chair:

- Renewables Work Group: David Kinloch-Brown (Soft Energy), Lauren McGrath (Sierra Club),
- Economics & Rates Work Group: Isaac Scott (EKPC) and Ann Wood (EKPC)
- DSM Work Group: Sara Pennington (KFTC)

The Collaborative chairman, named by EKPC, is David Crews, and the Vice Chair, named by the public interest groups, is Tona Barkley.

Summary of 2nd Year Collaborative Meetings and Renewable Energy

By Tona Barkley, Collaborative Vice Chairwoman

The fifth meeting of the Collaborative was held April 17, 2012, at Eastern Kentucky University in Richmond, Ky. Following an update from the Renewable Energy (RE) Work Group, the attendees turned to a recommendation from the Demand Side Management (DSM) Work Group that had been sent back for rewrite by the Collaborative at its January meeting. The rewritten recommendation on Overcoming Barriers and Challenges was presented and approved by consensus.

The group then reviewed a draft of the first-year annual report and discussed steps to complete the Collaborative's work in the second year. Steve Wilkins gave a report on feedback received at the Collaborative's first public forum, which was held April 9, 2102 in Morehead, Ky. The topic of that forum was demand side management/energy efficiency. The group also heard an update on the progress of the market research being conducted for the Collaborative by the National Rural Electric Cooperative Association (NRECA) and formed a committee to work on the Collaborative's second public forum.

In August 2012, the Collaborative leadership team agreed to place Collaborative activity on hiatus until the Kentucky Public Service Commission's review of EKPC's Integrated Resource Plan (IRP) was completed. This action was in response to intervention by a Collaborative member, the Sierra Club, in the PSC's review of the IRP. It was agreed that discovery issues might make it difficult to conduct productive discussions while the IRP review was ongoing. The Collaborative remained on hiatus until the early months of 2013, at which time work group meetings resumed preparing for the sixth meeting.

The Collaborative convened again on March 26, 2013 in Lexington. The DSM Work Group presented four new recommendations, and the RE Work Group presented two recommendations. Both work groups received feedback from the full Collaborative in preparation for a consensus discussion at the next meeting.

Bruce Barlow of NRECA presented preliminary market research findings. This included video from the qualitative interviews conducted across the territories of selected distribution cooperatives deemed to be representative of the whole group.

Bill Blair and Chris Woolery of the Mountain Association for Community Economic Development gave a presentation on the success of the How$martKY pilot conducted in four of the distribution co-ops. The program provides a funding mechanism whereby qualifying participants can pay for energy upgrades to their homes through savings on their electric bills.

At the seventh Collaborative meeting, held on July 22, 2013 in Lexington, four recommendations of the DSM Work Group and two recommendations of the RE Work Group were approved by consensus. A presentation on the cooperative's research into wind energy was delivered by EKPC's Jeff Brandt. Members then discussed a proposal to hold an additional event following the last Collaborative meeting, the goal of which would be to educate distribution co-op staff about the information the Collaborative explored and the recommendations it has made.

The final meeting of the Collaborative was held on Oct. 23, 2013 in Lexington. At this meeting, Barlow gave a presentation analyzing the results of the research conducted by NRECA into members' awareness, views and context associated with DSM programs offered by the co-ops. Barlow's analysis included suggestions for market segmentation and targeting of specific programs. This final meeting also included a report from Collaborative members Mike Williams and Elizabeth Crowe on the renewable energy public forum conducted in Danville in September and a presentation from EKPC's Scott Drake on actions taken by EKPC and its owner-members to address the Collaborative's previous recommendations. Information from both presentations is summarized elsewhere in this Annual Report.

At the end of the final meeting, Elizabeth Crowe presented a closing statement on behalf of the public interest groups, applauding EKPC and the cooperatives for the progress made toward EE/DSM and RE so far, encouraging EKPC to set percentage goals for savings through energy efficiency, DSM, and renewable energy generation, and offering to continue the conversation and collaborate in the future to assist with implementation of the recommendations of the collaborative to increase participation in existing and future EE/DSM and RE programs. The public interest groups' closing statement is available at: www/ekpc.coop/collaborative/closingstatement.pdf.

Chairman David Crews closed the meeting with thanks to all participants for their hard work, good faith and significant progress. He said a meeting of the leadership would be planned to map out a format in which collaboration among the parties could continue.

Report & Recommendations of DSM Work Group

By Steve Wilkins & Mark Stallons
Work Group co-chairs

During its second year of work, the Demand Side Management (DSM) Work Group developed four new recommendations, which were approved by the Collaborative.

The DSM Work Group also collaborated with National Rural Electric Cooperative Association (NRECA) market research staff to develop a research instrument to gather information about cooperative members' perspectives on energy efficiency and preferences and barriers to adopting various energy efficiency/DSM strategies.

In addition, the work group gathered comparative information about on-bill financing strategies piloted by four EKPC owner-member cooperatives and by a group of South Carolina cooperatives.

New Recommendations

Four new recommendations were approved by the full Collaborative to be passed on to EKPC for consideration. They are:

Recommendation 1

The Collaborative recommends that EKPC, in concert with the CEO/Manager's Association, continue to investigate, develop and implement rate strategies that:

1. Promote energy efficiency/DSM and rate alignment among PJM, EKPC, Distribution Cooperatives, and Members;

2. Promote fair cost recovery; and

3. Resolve shared demand risk and customer charge risk.

Investigation will begin in June 2014 and be based on one year of experience with PJM and on energy and demand data collection on energy efficiency/DSM programs.

Recommendation 2

The Collaborative recommends that EKPC and Owner Members work toward partnership and collaboration with public interest groups, utilities, and other agencies to market and promote energy efficiency, DSM and renewables.

Recommendation 3

The Collaborative recommends that EKPC conduct a study of the How$martKY on-bill financing program to quantify the energy savings and administrative costs. Should the results of the study prove to be positive we recommend that EKPC communicate the program benefits to all Owner-Members and promote How$martKY by providing marketing and advertising support to the participating Owner-Members.

Recommendation 4

The Collaborative recommends that EKPC work with Owner Members who choose to develop a member-to-member "energy ambassador" program to promote DSM efforts in the distribution cooperatives, including providing materials and training and certifying volunteer members.

These recommendations will be forwarded to EKPC's management for consideration.

Market Research on EE/DSM

The DSM Work Group also collaborated with National Rural Electric Cooperative Association (NRECA) market research staff to develop research instruments to gather data about

DSM WORK GROUP

Front row, from left: Co-Chair Mark Stallons, Co-Chair Steve Wilkins, Rick Ryan, Tona Barkley

Back row, from left: Scott Drake, Alan Coffey, Ann Beard, Maudie Nickell, Kim Bush, Sara Pennington

Not pictured: Tom Carew, Joni Hazelrigg, Jeff Prater, Scott Sidwell

cooperative members' perceptions of energy efficiency and preferences and barriers to adopting various energy efficiency/DSM strategies. The effort will include qualitative and quantitative research phases.

On-Bill Financing Pilots

The work group also gathered comparative information about on-bill financing strategies being piloted by four EKPC owner-member cooperatives and by eight South Carolina cooperatives.

Over the past two years, four EKPC owner-member distribution cooperatives—Big Sandy RECC, Fleming-Mason Energy, Grayson RECC, and Jackson Energy—have partnered with the Mountain Association for Community Economic Development (MACED) for a local on-bill financing pilot called House$martKY. The Kentucky Public Service Commission (PSC) has granted permanent on-bill financing tariffs for three EKPC owner-member cooperatives.

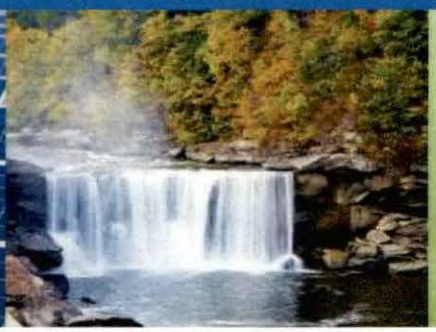
By the end of 2012, 116 homes had completed retrofits. There were still 14 homes to be completed when MACED reported to the DSM Work Group in March 2013. A final report from MACED will not be available until 12 months of post-retrofit consumption data can be collected on all participating homes. Preliminary data indicated weather-normalized energy savings of approximately 20 percent.

In South Carolina, the Electric Cooperatives of South Carolina (ECSC) and Central Electric Power Cooperative, a generation and transmission cooperative like EKPC, have embarked on a two-year pilot of on-bill financing of energy efficiency improvements. Through the pilot, which involved 125 homes served by eight co-ops, ECSC found that the average home cut electricity usage 34 percent, with annual dollar savings averaging $1,157.

The two projects featured some key differences. The ECSC program was loan-based while the Kentucky program used a tariffed approach. The Kentucky effort had a primary intent of piloting on-bill financed upgrades to determine the efficacy of pursuing such programs in a more robust way with more of EKPC's distribution cooperatives. The South Carolina cooperatives have set a goal of reducing energy use 10 percent over 10 years, and the pilot was aimed at testing whether that goal could be met in a region where income levels are 15 percent below the national average.

Report & Recommendations of the Renewable Energy Work Group

By Elizabeth Crowe & Mike Williams
Work Group co-chairs

In 2012-2013, the Renewable Energy Work Group investigated specific renewable energy projects, and drafted and approved two recommendations, which were approved by the Collaborative.

The work group reviewed and discussed a variety of renewable energy options that could meet the following attributes:

- Voluntary in nature;
- As financially accessible as possible for co-op members;
- Could drive demand for renewable energy;
- Scalable;
- Increase familiarity with renewable energy technologies; and
- Could lead to more local generation of renewable energy.

One focal point for the group was the expansion of EKPC's EnviroWatts program. While the program's structure is established and useful, the work group agreed that EnviroWatts could be strengthened and made more attractive with an expanded list of renewable energy options, such as solar, wind and hydro. It was noted that barriers to EnviroWatts participation include the current pricing structure and the perception of some people that landfill gas is not renewable. And, if modifications are made, it presents an opportunity to re-examine marketing strategies in order to increase program participation. Collaborative members pledged to work together to encourage participation among individuals and businesses.

The work group also examined the option for EKPC to establish a solar photovoltaic array. In March 2012 the work group met with Ed Fortner, Director of the Berea Municipal Utilities, and in May 2012 made a site visit to Berea to visit BMU's solar installation and meet with staff and partners. The work group also conducted a conference call with Sam Avery of Avery & Suns solar installation. The group identified implementation hurdles and potential solutions to increase participation in the program. Through the year, the work group worked to draft recommendations on pricing, location and configuration of the solar panels. The work group approved a set of recommendations in January 2013 and final recommendations were approved by the Collaborative in July.

The following two recommendations were approved by the Collaborative.

Recommendation 1: Enhance EnviroWatts

- EKPC should revise its Envirowatts program to add the option for cooperative members to voluntarily purchase 100-kilowatt-hour blocks of electricity generated by solar, wind or hydropower, individually. Block rates could be initially based on current renewable energy credit (REC) pricing, and reviewed at a minimum of once every two years to insure that pricing is appropriate. The goal is to make renewable energy accessible, reflect the changing costs of renewable energy and allow cost recovery for EKPC and its owner-member cooperatives.
- Available for residential and commercial members.

RENEWABLE ENERGY WORK GROUP

Front row, from left: Sharon Carson, Ginger Watkins, Candi Waford, Co-Chair Elizabeth Crowe, Josh Bills

Back row, from left: Chuck Bishop, David Crews, Scott Drake, Co-Chair Mike Williams, Tona Barkley, Wallace McMullen, Larry Hicks, David Phelps

Not pictured: Jay Hampton

- EKPC should review opportunities for out-of-state wind power purchase agreements, particularly the options now available through its membership in PJM.

- Research low-impact hydro potential, prioritizing in-state generation.

- EKPC should rebrand the Envirowatts program; explore marketing strategies.

- EKPC and its owner-member cooperatives should track participation in Envirowatts and assess challenges and opportunities for participation, to enhance marketing and out-reach activities and best serve the needs of co-op members.

Recommendation 2: Solar photovoltaic installation

- Invest in installation and operation of a solar photovoltaic farm, with an initial target capacity of 25-30 kw. Panels can be leased by members at a one-time price through a 25-year agreement. Customers would receive a monthly credit for the amount of electricity generated by the panel.

- EKPC should offer energy from unsubscribed solar farm panels to co-op members through the Envirowatts program.

- Installation location criteria should include opportunities for interaction with co-op members, that could increase publicity and interest in participation; material and installation costs.

- Provide members and the general public with interactive informational materials and activities to familiarize solar technology and its benefits.

- EKPC should research grant and loan opportunities.

- EKPC and its owner members should track participation in renewable energy projects and ensure there are adequate renewable energy options to meet the demand.

In addition to these topics, the Renewable Energy Work Group also created a scope of work for marketing research to determine the interest and potential market for renewable energy and energy efficiency programs recommended through the Collaborative. The research will be conducted by the National Renewables Cooperative Organization and its marketing consultants. Several workgroup participants were also interviewed by the marketing research team. The Collaborative also gather feedback on renewable energy at a September 2013 public forum in Danville at the offices of Inter-County Electric Cooperative. (That forum is discussed in more detail in this annual report.) The market research results, combined with

input received at the public forum, will aid discussion of outreach and education strategies before the end of 2013.

In summary, and in addition to generation and passage of the recommendations, Renewable Energy Work Group participants have accomplished their goals: learn from each others' experiences and perspectives; develop greater understanding of renewable energy potential; and expand the potential for ongoing relationships between co-op utilities and public interest groups to work together in the best interest of co-op members.

Report on the Sept. 19, 2013 Renewable Energy Public Forum

By Elizabeth Crowe

The results of more than two years of Collaborative conversation on renewable energy were brought to the public in September when the Collaborative organized a public forum on renewable energy. The forum was hosted by Inter-County Energy Cooperative at the co-op's offices in Danville, Ky.

About 40 people, including co-op members and citizens, joined Collaborative members to hear presentations on: the purpose and goal of the Collaborative by David Crews and Tona Barkley; a primer on renewable energy sources available in Kentucky; and about EKPC's existing renewable energy purchasing program, EnviroWatts, by Josh Bills and Scott Drake. In addition, Mike Williams and Elizabeth Crowe, who co-chaired the Renewable Energy Work Group, presented the Collaborative's renewable energy recommendations.

Following these presentations, participants divided into small groups. Collaborative members prompted discussion with a set of guiding questions to gain feedback on the recommendations and on renewable energy in general. They also gathered ideas and suggestions for how renewable energy projects could be successfully rolled out by EKPC and its owner-member co-ops. Discussion from the small groups included:

- Support for the recommendation for a subscribed solar farm and the belief that it would be fully subscribed;
- Support for including additional renewable energy options in the EnviroWatts program;
- Desire for more options to reduce the cost of renewable energy, and questions about how people can advocate for support of renewable energy among state leaders;
- Discussion of the future use of "smart grid" technology to capture return on investment and support decentralized power; and
- Interest in the cost comparison between solar and wind energy.

Some participants expressed concern that renewable energy can be perceived by utilities and others as accessible only to wealthy people, and a desire to avoid that division. Another felt that they were not getting as much support for renewable energy net metering from their co-ops as they wanted.

One feature of the forum was a solar energy trailer, loaned by Appalachian Science in the Public Interest and transported to the meeting by Josh Bills. Following adjournment of the forum, some participants toured the trailer to see how solar panels function.

From all participants there was appreciation for the opportunity for meaningful conversation between co-op leaders, EKPC staff, public interest groups and co-op members. Some participants specifically suggested that this type of forum be offered by each distribution co-op so that members can be more engaged in discussing co-op programs and activities.

Summary of Recommendations to EKPC's Management

1. Partner with distribution member cooperatives and allocate resources for measurement and verification (M&V) of the cooperatives' existing and future DSM efforts. This includes developing a standardized, on-going process to collect data, investigate, and report on dynamic energy and demand impacts.

2. Offer generally accepted DSM quantitative and qualitative analytic services to member systems on an individual, group and/or system average basis using each member cooperative's unique market and cost structures.

3. Aggressively help member systems market those DSM programs with the optimal benefit-cost profiles.

4. Develop strong educational, marketing and training programs for member systems to promote DSM efforts considering all potential markets and channels for messaging.

5. Allocate resources toward becoming and serving as a consultant and expert for member systems in their DSM efforts. Identify best practices, provide research support, and explore partnerships to this end.

6. Continually evaluate new and on-going DSM programs, refining efforts to ensure optimal penetration of target markets.

7. In concert with the CEO/Manager's Association, continue to investigate, develop and implement rate strategies that:

a. Promote EE/DSM and rate alignment among PJM, EKPC, distribution cooperatives, and members.
b. Promote fair cost recovery
c. Resolve shared demand risk and customer charge risk

Investigation will begin in June 2014 and be based on one year of experience with PJM and on energy and demand data collection on EE/DSM programs.

8. With owner-member cooperatives, work toward partnership and collaboration with public interest groups, utilities, and other agencies to market and promote energy efficiency and DSM.

9. Conduct a study of the How$martKY on-bill financing program to quantify the energy savings and administrative costs. Should the results of the study prove to be positive, we recommend that EKPC communicate the program benefits to all owner-member cooperatives and promote How$martKY by providing marketing and advertising support to the participating owner-member cooperatives.

10. Work with owner-member cooperatives that choose to develop a member-to-member "energy ambassador" program to promote DSM efforts in the distribution cooperatives, including providing materials and training and certifying volunteer members.

Renewable Energy Work Group

1. Enhance the EnviroWatts Program

- EKPC should revise its Envirowatts program to add the option for cooperative members to voluntarily purchase 100-kilowatt-hour blocks of electricity generated by solar, wind or hydropower, individually. Block rates could be initially based on current renewable energy credit (REC) pricing, and reviewed at a minimum of once every two years

to insure that pricing is appropriate. The goal is to make renewable energy accessible, reflect the changing costs of renewable energy and allow cost recovery for EKPC and its owner-member cooperatives.

- Available for residential and commercial members.
- EKPC should review opportunities for out-of-state wind power purchase agreements, particularly the options now available through its membership in PJM.
- Research low-impact hydro potential, prioritizing in-state generation.
- EKPC should rebrand the Envirowatts program; explore marketing strategies.
- EKPC and its owner-member cooperatives should track participation in Envirowatts and assess challenges and opportunities participation, to enhance marketing and outreach activities and best serve the needs of co-op members.

2. Solar Farm Project

- Invest in installation and operation of a solar photovoltaic farm, with an initial target capacity of 25-30 kw. Panels can be leased by members at a one-time price through a 25-year agreement. Customers would receive a monthly credit for the amount of electricity generated by the panel.
- EKPC should offer energy from unsubscribed solar farm panels to co-op members through the Envirowatts program.
- Installation location criteria should include opportunities for interaction with co-op members, that could increase publicity and interest in participation; material and installation costs.
- Provide members and the general public with interactive informational materials and activities to familiarize solar technology and its benefits.
- EKPC should research grant and loan opportunities.
- EKPC and its owner members should track participation in renewable energy projects and ensure there are adequate renewable energy options to meet the demand.

EKPC Actions On First-Year Recommendations

By Scott Drake, EKPC

DSM Work Group Recommendation #1:
Partner with distribution member cooperatives and allocate resources for measurement and verification of the cooperatives' existing and future DSM efforts. This includes developing a standardized, on-going process to collect data, investigate and report on energy and demand impacts.

EKPC has contracted with DNV KEMA Energy & Sustainability to perform a thorough assessment of the cooperative's DSM evaluation, measurement and verification process. DNV KEMA interviewed EKPC staff, consultants and owner-members' staff. The consultant also compared EKPC's process to industry best practices and made recommendations for improvement. As a result, by the end of 2013, EKPC plans to purchase and begin using software to better track program implementation and assist with standardizing energy savings estimates and the California benefit/cost tests. For programs where such analysis is appropriate and there is sufficient participation, DNV KEMA also recommended EKPC conduct its own billing data analysis rather than use a deemed savings approach.

DSM Work Group Recommendation #2:
Offer generally accepted DSM quantitative and qualitative analytic services to member systems on an individual, group and/or system average basis using each member cooperative's unique market and cost structures.

EKPC's consultant, John Farley, is available to provide the owner-member cooperatives with requested DSM program analytics. EKPC has allocated funding to pay for the consultant's time to respond to requests. Over the past year, Farley has performed evaluations for co-ops based on their own cost structures and demographics.

DSM Work Group Recommendation #3:
Aggressively help member systems market those DSM programs with the optimal benefit-cost profile.

EKPC has partnered with owner-member cooperatives to implement outbound telemarketing for the $impleSaver direct load control (DLC) program, which has the highest benefit-cost profile in the EKPC's portfolio. As a result of these efforts, EKPC and the owner-members installations are on a record pace, with more switches installed during the first half of 2013, that all of 2012. The DLC switch installation contractor has hired additional local licensed technicians to keep pace with the consumer response.

DSM Work Group Recommendation #4:
Develop strong educational, marketing and training programs for member systems to promote DSM efforts considering all potential markets and channels for messaging.

*I*n 2012, EKPC developed a new marketing campaign to promote energy-efficiency programs. Called SAVE IT!, this approach can be used to promote all DSM programs collectively or individually. The strategy of the campaign is to create a dialogue between the local cooperative and end-consumers, and cultivate word-of-mouth marketing. More than 50 print and web advertisements have been provided to owner-member co-ops in 2013, and EKPC has produced and distributed two new television spots. The campaign includes print, radio, banners, brochures and Kentucky Living magazine. EKPC is also offering a SAVE IT! booth featuring brochures on DSM programs to each owner-member for its annual meeting. New energy advisor training is set for November 2013.

DSM Work Group Recommendation #5:
Allocate resources to becoming and serving as a consultant and expert for member systems in their DSM efforts. Identify best practices, provide research support, and explore partnerships to this end.

EKPC has dedicated staff to the development, implementation and ongoing improvement of DSM programs. Staff has participated in several industry meetings and conferences to identify DSM program best practices. EKPC has discussed with the owner-member co-ops the different DSM program types and designs that achieve higher energy efficiency per participant, such as whole-house envelope improvement, and those that achieve higher customer participation, such as direct install programs. EKPC, along with one owner-member, is conducting a research project to evaluate the impacts of weatherizing existing manufactured homes.

DSM Work Group Recommendation #6:
Continually evaluate new and on-going DSM program, refining efforts to ensure optimal penetration of target markets.

EKPC and its owner-member cooperatives made changes to four DSM programs in January 2013. The four program changes received PSC tariff approval January 1, 2013. Development of new residential programs is being delayed until measurement and verification software has been chose, as this will help to evaluate existing programs. Also, EKPC staff is working on a new Demand Response program that allows the commercial and industrial members who have backup generators to participate in the PJM Emergency Demand Response markets and be compensated for that participation.

A Touchstone Energy® Cooperative

4775 Lexington Road, 40391
P.O. Box 707,
Winchester, KY 40392-0707
Telephone: 859-744-4812
Fax: 859-744-6008
www.ekpc.coop

EXHIBIT DC-2

TURNKEY ENGINEERING, PROCUREMENT AND CONSTRUCTION AGREEMENT WITH

LENDLEASE (US) PUBLIC PARTNERSHIPS, LLC

DATED JUNE 30, 2016

(SEE ATTACHED DISC)

EXHIBIT DC-3

WHOLESALE COMMUNITY SOLAR TARIFF

East Kentucky Power Cooperative, Inc.
(NAME OF UTILITY)

RATES SCHEDULE CS — COMMUNITY SOLAR POWER GENERATION

APPLICABLE

In all territory served by EKPC.

AVAILABILITY OF SERVICE

Community Solar Power is available to EKPC's Member Cooperatives (for the benefit of their end-use members ("Customers")) on a voluntary basis, upon request, and on a first-come, first-served basis up to a cumulative capacity of 8.5 MW.

PARTICIPATION

Each Member Cooperative participating in this program shall facilitate its Customer's entry into a twenty-five (25) year Community Solar Farm Solar Panel License Agreement ("License Agreement") for a percentage of a solar generating facility owned by EKPC. Each such Member Cooperative shall pay to EKPC a license fee to be collected from each participating Customer upon the Customer's entry into a License Agreement for a portion of the capacity of the solar generating facility. The license fee shall equal the net present value of the capital and financing costs of each participating Customer's percentage of the solar generating facility.

A Customer may offset up to one hundred percent (100%) of his or her energy consumption based on the average annual consumption of electricity from the previous three (3) years. If the previous three (3) year consumption data is not available, the data that is available will be used to determine the maximum number of solar panels the Customer will initially be able to license.

East Kentucky Power Cooperative, Inc.
(NAME OF UTILITY)

METERING

EKPC shall provide metering services, without any cost to the Member Cooperative or Customer for metering equipment, through a standard kilowatt-hour metering system that will be located at the point of delivery of electricity generated by the solar generation facility. This provision does not relieve a Member Cooperative of its responsibility to pay other metering costs included in EKPC's approved base rates. For purposes of determining the amount of energy generated by the participating Member Cooperative's Customer's licensed percentage of the solar generation facility, EKPC shall multiply the total energy output of the solar generation facility, by each participating Member Cooperative's Customer's proportional licensed interest in the solar generation facility.

PANEL PRODUCTION CREDITS

Member Cooperatives will be credited monthly by EKPC for the electric power produced by solar panels licensed by the participating Customer at the rate defined by PJM Interconnection, LLC as the value of the real-time locational marginal price for energy at the EKPC Office Substation node during each hour of the day. Member Cooperatives shall also be entitled to receive the value of capacity payments received by EKPC as determined in the applicable PJM Base Residual Auction for the portion of the community solar farm licensed to each participating Customer that is a Member of the Member Cooperative.

A Customer will elect to have EKPC either retire or sell Solar Renewable Energy Credits and any other environmental attributes ("SRECs") associated with energy generated by the solar generation facility. If elected, EKPC will monetize any SRECs and will issue a corresponding credit to the participating Member Cooperative for the proceeds of such sale, which the Member Cooperative will include as a credit on the participating Customer's electric bill. The proceeds of all SRECs disposed of by EKPC will accumulate over a calendar year and will be credited to the Member Cooperative in equal installments over a twelve (12) month period beginning on April 1st of the following year, along with interest on the proceeds accrued at the rate set forth by the Commission for customer deposits.

Costs for operating, maintaining, insuring and paying taxes on the solar generating facility will be determined in aggregate on an annual basis and netted against the Panel Production Credit as set forth below. In the event that any significant investment (i.e. replacement of an inverter) occurs during the term of a License Agreement, the cost of the investment will be amortized over the remaining term of the License Agreement.

The net amount of the Panel Production Credit will be determined by taking the sum of the capacity credit, energy credit and SREC credit (if applicable) and subtracting from said sum the operation and maintenance expense.

At no time shall EKPC be required to convert any Panel Production Credit to cash. Any excess Panel Production Credit can be carried forward by the Member Cooperative to offset a later billed amount.

FUEL ADJUSTMENT CLAUSE

The fuel adjustment clause is not applicable to the Community Solar Power Generation program.

ENVIRONMENTAL SURCHARGE

The environmental surcharge is not applicable to the Community Solar Power Generation program.

TRANSFER/TERMINATION

If the participating Customer moves to a new location within Member Cooperative's service territory the credit may be transferred to the new location. If the Customer moves to a new location outside the Member Cooperative's service territory or his or her membership in the Member Cooperative is terminated for any reason, the Customer may transfer the license and credits to another Customer within Member Cooperative's service territory within sixty (60) days following the termination of membership or service. If the license is not transferred within sixty (60) days, the license shall be terminated and the Member Cooperative may license the Customer's panel(s) to another customer. If, however, the Customer owes an outstanding

balance to the Member Cooperative at the time of termination of membership or service, the Member Cooperative may continue to accrue the Panel Production Credit to reduce and eliminate the outstanding balance prior to making any designated transfer of the license to a different service address or customer. The Customer is responsible for informing Member Cooperative of any changes in the service location for which the credits are to be associated.

APPLICATON AND APPROVAL PROCESS

To facilitate participation by Member Cooperatives, EKPC will send a notice of the opportunity to enter into a License Agreement for a portion of each solar generation facility to each of its Member Cooperatives on or after the effective date of this tariff. A Member Cooperative may thereafter assist its end-use members with the process for entering into the license agreement for a portion of the capacity of the solar generation facility on a first-come, first-served basis until the entire capacity of the solar generation facility is fully licensed. A Customer's license of a solar panel shall be effective upon receipt of the signed License Agreement and license fee by the Member Cooperative. Any Member Cooperative that was unable to participate in the licensing of the initial solar generation facility shall be given a preference to participate in the licensing of any additional solar generation facilities.

EXHIBIT DC-4

RETAIL COMMUNITY SOLAR TARIFF TEMPLATE

RATES SCHEDULE CS — COMMUNITY SOLAR POWER GENERATION

APPLICABLE

In all territory served by <CO-OP NAME>.

AVAILABILITY OF SERVICE

Community Solar Power is available to <CO-OP NAME>'s End-Use Cooperative Members ("Customer") on a voluntary basis, upon request, and on a first-come, first-served basis up to the capacity available to <CO-OP NAME> from East Kentucky Power Cooperative ("EKPC").

LICENSE ARRANGEMENT

Each Customer participating in this program shall enter into a Community Solar Farm Solar Panel License Agreement ("License Agreement") with <CO-OP NAME>, for a percentage of a solar generating facility for a term of 25 years. Each such Customer shall pay to <CO-OP NAME> a license fee upon entering into a License Agreement for a portion of the capacity of the solar generating facility. The license fee shall equal the net present value of the capital and financing costs of each participating Customer's percentage of the solar generating facility.

The Customer may offset up to one hundred percent (100%) of his or her energy consumption based on the average annual consumption of electricity from the previous three (3) years. If the previous three (3) year consumption data is not available, the data that is available will be used to determine the maximum number of solar panels the Customer will initially be able to license.

METERING

EKPC shall provide metering services, without any cost to the <CO-OP NAME> or Customer for metering equipment, through a standard kilowatt-hour metering system that will be located at

the point of delivery of electricity generated by the solar generation facility. For purposes of determining the amount of energy generated by the Customer's licensed percentage of the solar generation facility, the total net energy output of the solar generation facility shall be multiplied by the Customer's proportional licensed interest in the solar generation facility.

PANEL PRODUCTION CREDITS

Participating Customers will be credited monthly by <CO-OP NAME> for the electric power produced by solar panels licensed by the participating Customer at the value of the real-time locational marginal price for energy set by PJM Interconnection, LLC ("PJM") at the EKPC Office Substation node during each hour of the day. A participating Customer shall also be entitled to receive the value of capacity payments received by EKPC as determined in the applicable PJM Base Residual Auction for the portion of the community solar farm licensed to the participating Customer.

A participating Customer shall elect whether any Solar Renewable Energy Credits or any other environmental attributes ("SRECs") associated with energy generated by the solar generation facility shall be sold by EKPC or retired. A participating Customer who elects to sell the SRECs will receive a corresponding credit on his or her electric bill from <CO-OP NAME>. The credit for those SRECs will accumulate over a calendar year and will be credited to the Customer in equal installments over a twelve (12) month period beginning on April 1st of the following year, along with interest accrued at the rate set forth by the Commission for customer deposits.

Costs for operating, maintaining, insuring and paying taxes on the solar generating facility will be determined in aggregate on an annual basis and netted against the Panel Production Credit as set forth below. In the event that any significant investment (i.e. a replacement of an inverter) occurs during the term of a License Agreement, the cost of the investment will be amortized over the remaining term of the License Agreement.

The net amount of the Panel Production Credit will be determined by taking the sum of the capacity credit, energy credit and SREC credit (if applicable) and subtracting from said sum operations and maintenance expense.

At no time shall <CO-OP NAME> be required to convert the Panel Production Credit to cash. Any excess Panel Production Credits can be carried forward to offset a later billed amount.

FUEL ADJUSTMENT CLAUSE

The fuel adjustment clause is not applicable to the Community Solar Power Generation program.

ENVIRONMENTAL SURCHARGE

The environmental surcharge is not applicable to the Community Solar Power Generation program.

TRANSFER/TERMINATION

If the Customer moves to a new location within <CO-OP NAME>'s service territory the credit may be transferred to the new location. If the Customer moves to a new location outside <CO-OP NAME>'s service territory or his or her membership in <CO-OP NAME> is terminated for any reason, the Customer may transfer the license and credits to another Customer within <CO-OP NAME>'s service territory within sixty (60) days following the termination of membership or service. If the license is not transferred within sixty (60) days, the license shall be terminated and <CO-OP NAME> may license the Customer's panel(s) to another customer. If, however, the Customer owes an outstanding balance to the Member Cooperative at the time of termination of membership or service, the Member Cooperative may continue to accrue the Panel Production Credit to reduce and eliminate the outstanding balance prior to making any designated transfer of the license to a different service address or customer. The Customer is responsible for informing <CO-OP NAME> of any changes in the service location for which the credits are to be associated.

COMMUNITY SOLAR FARM SOLAR PANEL LICENSE AGREEMENT

_____
(NAME OF UTILITY)

Any Customer desiring to license one or more solar panels in the Community Solar Farm must first enter into the License Agreement (a copy of which is attached hereto and incorporated herein by reference as if set forth fully herein) and tender to <CO-OP NAME> the requisite license fee. The license fee shall thereafter be transferred to EKPC within three (3) business days.

COMMUNITY SOLAR FARM
SOLAR PANEL LICENSE AGREEMENT

This License Agreement ("Agreement") is made and entered into this ____ day of _____, 20__ by and between <CO-OP Name>, with its principal place of business at <CO-OP Address> ("Cooperative"), and the following identified person ("Customer"), who is a Member of Cooperative:

Customer/Licensee:_____

Mailing Address:_____

Service Address: _____

Telephone Number: _____ Email Address:_____

Account Number: _____

1. **License.**

1.1. Subject to the terms and conditions set forth in this Agreement, Cooperative hereby grants to Customer a license (each, a "License") to receive the Panel Production Credits (as defined below) allocated to each of the following solar panels identified by Serial Number (each, a "Solar Panel") during the Term:

Serial Number: _____	Serial Number: _____
Serial Number: _____	Serial Number: _____
Serial Number: _____	Serial Number: _____
Serial Number: _____	Serial Number: _____
Serial Number: _____	Serial Number: _____

(If additional panels are licensed, attach additional sheets listing the Serial Number(s) as necessary.)

1.2. The foregoing solar panel(s) will be in service at East Kentucky Power Cooperative, Inc.'s ("EKPC") Community Solar Facility ("Solar Facility") located at 4775 Lexington Road, Winchester, Kentucky. Cooperative, as a Member of EKPC has been granted the right to license said panels. Customer acknowledges and agrees that EKPC retains sole ownership, possession and control of each Solar Panel, and will have the exclusive right to maintain and operate such Solar Panel. Customer also acknowledges that EKPC may replace a Solar Panel with any make, model, brand or type of solar panel as EKPC may elect, in its sole discretion, on notice to Cooperative of such change. In the event a Solar Panel is changed, updated information, including the new Serial Number, make, model and specifications of the Solar Panel will be provided to Cooperative by EKPC. Cooperative will provide this new information to Customer.

1.3. During the Term (as defined below), Customer will receive the Panel Production Credit for each Solar Panel as a credit on Customer's monthly bill for electricity provided by Cooperative at the Service Address set forth above (the "Service Address"), which address must be located within Cooperative's service territory.

Only metered residential, commercial and industrial accounts will be permitted to receive the Panel Production Credit. Exterior lighting accounts are not eligible to participate in the program. A separate License Agreement with a Customer is required for each specific Service Address.

The License granted to the Customer hereunder is limited to the receipt of the Panel Production Credits referred to above, and includes no other rights except as specified herein.

2. **Consideration.** As consideration for the License granted to Customer pursuant to this Agreement, the Customer will pay to Cooperative a license fee in the sum of $460.00, per Solar Panel listed above. Said fee shall be delivered and payable to Cooperative, upon the execution of this Agreement, (the "License Fee").

3. **Term.** Each License shall be effective beginning on the date of this Agreement, and will continue for a period of twenty-five (25) years ("the "Term"), subject to early termination as provided in this Agreement.

4. **Cooperative Obligations.** Cooperative agrees to:

4.1. Provide Customer with any updates in the event of any changes pursuant to Section 1.2 of this Agreement.

4.2. Relay any necessary information to Customer regarding the operation and maintenance of the community solar facility it receives from EKPC. Cooperative will not be the owner or operator or provide any maintenance on the community solar facility and is only able to offer participation to its customers because of its Membership status with EKPC. Each solar panel subject to this License will remain the sole property of EKPC. EKPC will be the sole loss payee listed on any insurance policies related to the solar panel(s) listed in this Agreement.

5. **Panel Production Credits.** The Panel Production Credit for each Solar Panel will be defined, calculated and distributed as follows:

5.1. For each solar panel licensed by the Customer, the Customer shall receive a monthly Panel Production Credit consisting of: A) the sum of: 1) the Final Energy Production Credit; 2) the Panel Capacity Credit; and, 3) if elected, the Solar Renewable Energy Credit ("SREC"); minus B) an Operations and Maintenance Debit. Each of these components shall be based upon the panel production and costs attributable to the Customer's licensed solar panels.

5.2. **Final Energy Production Credit**: The actual electric energy production for the entire Community Solar Facility will be recorded in kilowatt hours on a monthly basis ("Facility Power Production"). This Facility Power Production will then be allocated to each Solar Panel by dividing the Facility Power Production by the total number of active solar panels in the Community Solar Facility to determine the Final Energy Production Credit. This Final Energy Production Credit is the basis for the energy portion of the Panel Production Credit applied to the Customer's bill. The monthly credit applied to Customer's bill will be the Final Energy Production Credit for each Solar Panel licensed by Customer pursuant to this Agreement multiplied by the value of the real-time locational marginal price for energy at the EKPC Office Substation node during each hour of the day as established by PJM Interconnection, LLC ("PJM").

5.3 **Panel Capacity Credit**: The capacity value of the entire Community Solar Facility shall be determined by the applicable PJM Base Residual Auction for capacity and associated rules and tariffs of PJM. The capacity value of the entire Community Solar Facility shall be divided by the total number of active panels in the Community Solar Facility to determine the Panel Capacity Credit. The Panel Capacity Credit shall be determined on an annual basis and credited to the Customer in twelve equal installments.

5.4 **Solar Renewable Energy Credit**: Customer understands and agrees that EKPC will

☐ sell or ☐ retire (choose one) any SRECs associated with the solar panel(s) covered under this Agreement. The value of any SRECs sold in a calendar year that are attributable to the entire Community Solar Facility will be credited in an amount proportional to the Customer's licensed capacity in the Community Solar Facility, in equal monthly amounts, to the Customer's electric utility bill the following calendar year, starting April 1 of the following year through March 31 of the next year. (For example, any SRECs sold or retired in 2016 would be credited to the Customer's account on a monthly basis beginning April 1, 2017 through March 31, 2018.). The Customer shall be paid interest on the accumulated SREC sales at the rate established by the Kentucky Public Service Commission for customer deposits. ***If the Customer elects to have the SRECs retired, the Customer will not receive the SREC credit. If the Customer elects to sell the SRECs, the Customer forfeits the right to claim production of solar energy.***

5.5 **Operations and Maintenance Debit**: Costs for operating, maintaining, insuring and paying taxes on the solar generation facility will be determined in aggregate on an annual basis and netted against the Panel Production Credit as set forth above. In the event that any significant investment (i.e. replacement of an inverter) occurs during the term of a License Agreement, the cost of the investment will be amortized over the remaining term of the License Agreement.

5.6 The Panel Production Credit will be set forth each month as a credit on the Customer's bill, beginning with the bill covering the next full billing cycle following the latter of: A) the date of execution of this Agreement; or B) the date the solar generating facility is deemed operational by EKPC. At no time shall Cooperative be required to convert

the Panel Production Credit to cash. Any excess Panel Production Credit can be carried forward to offset a later billed amount.

5.7 Unless the Customer agrees, in writing, to transfer the Panel Production Credit arising from this Agreement to another approved address in accordance with Section 8 of this Agreement, the Panel Production Credit will remain associated with the Service Address identified in Section 1.3 regardless of occupancy or ownership changes at that location. In the event the applicable service location associated with this Agreement is removed and/or not in service, the Customer must contact Cooperative to determine the service address to which the Panel Production Credits will be assigned. Until the Panel Production Credits are assigned, any accruing Panel Production Credits will be forfeited.

6. **Solar Panel License Cancellation and Termination.** In the event that the: A) Customer ceases to be a Member of Cooperative and fails to timely transfer this Agreement to another member of Cooperative in accordance with Section 8 of this Agreement; or B) Customer's service is disconnected for any lawful reason, Cooperative may elect to cancel the License for one or more of the Customer's licensed solar panels. Such cancellation will occur as follows:

6.1. Cooperative will notify Customer of Cooperative's election to exercise its cancellation right, and such notification will include the Solar Panel Serial Number for each License to be cancelled (the "Cancellation Notice"). The Cancellation Notice shall be set forth in writing.

6.2 Cooperative shall refund the license fee paid by the Customer in an amount of the license fee multiplied by a factor of 0.92^n, where n is the number of full plus partial years the license was in effect prior to cancellation. The Customer shall also be entitled to any accrued Panel Production Credits that existed as of the date of cancellation. However, if there is any outstanding balance owed to Cooperative, then Cooperative may retain the license fee and continue to accrue Panel Production Credits to reduce and eliminate the outstanding balance.

6.3 The cancellation shall be effective as of the date that the Cancellation Notice is delivered by Cooperative.

6.4 At the end of the twenty-five (25) year Term, this Agreement shall terminate without further action by either Party and the Customer shall not be entitled to any cancellation refund.

6.5. Upon cancellation of a license or the termination of this Agreement, Cooperative will have no further obligations to Customer with regard to the Community Solar Facility, the Solar Panel(s) or the Panel Production Credits.

7. **Additional Acknowledgements.** The Parties further acknowledge and agree that:

7.1. Customer will not have access to the Community Solar Facility or any Solar Panel, for any purpose, unless otherwise agreed to in advance by Cooperative and EKPC in their sole discretion. EKPC will have sole ownership, possession and control of each Solar Panel, and will have the exclusive right to maintain and operate such Solar Panel.

7.2. Customer may license multiple Solar Panels, provided, however, that the Service Address cannot be credited with more than one hundred percent (100%) of its energy consumption based on the average annual consumption of electricity from the previous three (3) years. If the previous three (3) year consumption data is not available, the data that is available will be used to determine the maximum number of solar panels the Customer will initially be able to license.

7.3. Customer may not require Cooperative to repurchase the License for any Solar Panel. In the event Customer desires to assign or transfer the License for one or more Solar Panels), Cooperative may provide Customer with reasonable assistance in finding an assignee or transferee for such License, but Cooperative is under no obligation to provide such assistance, to find an assignee, or to permit Customer to assign the License other than in compliance with this Agreement.

7.4. Except as expressly provided in this Agreement, Customer may not sell, assign, gift, bequeath or otherwise transfer any License for a Solar Panel to any other individual or entity.

7.5 **Disclaimer and Force Majeure.** Customer understands and acknowledges that the generation of solar energy and the sale of solar energy, generation capacity and SRECs is dependent upon numerous factors, including many which are beyond the control of Cooperative or EKPC. Neither Cooperative nor EKPC shall be responsible for any disruption or prevention on the production of solar energy from the licensed Solar Panels that is attributable to: (a) natural events such as acts of God, landslides, lightning, eclipses, weather patterns, earthquakes, fires, storms or the like; (b) interruption and/or curtailment of transmission facilities of third-parties; (c) acts of others such as strikes, lockouts or other industrial disturbances, riots, sabotage, insurrections or wars, or acts of terror; and (d) governmental actions such as necessity for compliance with any court or administrative order, law, statute, ordinance, regulation, order, or policy having the effect of law promulgated by a governmental authority having jurisdiction.

7.6 **Limitation of Liability**. EXCEPT AS MAY BE SET FORTH EXPRESSLY HEREIN, CUSTOMER UNDERSTANDS AND ACKNOWLEDGES THAT NEITHER COOPERATIVE NOR EKPC HAVE MADE ANY SPECIFIC OR GENERAL REPRESENTATIONS OR WARRANTIES REGARDING THE OPERATION, PRODUCTION, CONFIGURATION, LIFECYCLE OR ANY OTHER ASPECT OF THE LICENSED SOLAR PANEL(S), INCLUDING ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. TO THE EXTENT ANY REPRESENTATIONS AND WARRANTIES HAVE BEEN MADE, UNLESS EXPRESSLY SET FORTH HEREIN, CUSTOMER

UNDERSTANDS AND ACKNOWLEDGES THAT THEY ARE HEREBY EXPRESSLY DISCLAIMED. CUSTOMER ALSO UNDERSTANDS AND AGREES THAT HIS OR HER SOLE AND EXCLUSIVE REMEDY IN THE EVENT OF A BREACH OF THIS AGREEMENT BY COOPERATIVE IS EXPRESSLY LIMITED TO THE RETURN OF THE LICENSE FEE(S) TENDERED TO COOPERATIVE IN AN AMOUNT PROPORTIONATE TO THE NUMBER OF YEARS REMAINING ON THE LICENSE GRANTED HEREIN.

8. **Transfer/Assignment.** Subject to the provisions of this Section 8, and with advance written notice to Cooperative, a Customer may elect to: (a) change the Service Address for which the Panel Production Credit for one or more Solar Panels will apply, provided such Service Address is within Cooperative's service territory and associated with the Customer, or (b) assign this Agreement to another individual or entity provided such assignee's Service Address is located within Cooperative's service territory and the individual or entity is a Member of Cooperative. Customer will notify Cooperative of such change or assignment in writing at least thirty (30) days prior to the effective date of such change. This notice shall include:

- Customer's name and mailing address;
- A copy of the original License Agreement;
- The Serial Number for each applicable Solar Panel;
- The current Service Address;
- The new Service Address (if applicable);
- The name of the individual or entity to whom Customer is assigning this Agreement, (if applicable);
- Acknowledgment of Customer's surrender of the applicable License and any further Panel Production Credits associated with the assigned Solar Panel(s); and
- The effective date of such assignment.

Upon assignment of any License for a Solar Panel, the Customer will surrender all right, title and interest in and to such License. Customer further acknowledges and agrees that such assignment does not extend the Term of the License or this Agreement.

In the event that a Customer's membership in Cooperative ceases, a transfer under this Section 8 shall be made within sixty (60) days of termination of membership. If a transfer does not occur within sixty (60) days, the license shall be terminated in accordance with Section 6 of this Agreement.

9. **Notice.** All notices, requests, consents, and other communications required under this Agreement shall be in writing and will be mailed to the mailing address for each party as set forth above. Notices will be deemed delivered upon the earlier of: (a) the date of actual receipt, with a copy thereof being sent concurrently by certified or registered mail, return receipt requested: (b) three business days after being deposited in certified or registered mail, return receipt requested, postage prepaid; or (c) the following business day after being delivered to a reputable overnight courier service. If for any reason, a Party's mailing address should change, that Party must notify the other Party in writing of the change of address for notices to be sent.

10. **Entire Agreement.** This Agreement constitutes the entire agreement between the parties with respect to the subject matter hereof and supersedes all previous proposals, both oral and written, negotiations, representations, commitments, writings and all other communications between the parties. This Agreement may not be released, discharged, or modified except by an instrument in writing signed by a duly authorized representative of each of the parties.

11. **Governing Law.** This Agreement shall be deemed to have been made in, and shall be construed under, the internal laws of the State of Kentucky, without regard to the principles of conflicts of laws thereof.

IN WITNESS WHEREOF, the parties have executed this License Agreement as of the date first written above.

<CO-OP>

CUSTOMER NAME (please print)	<CO-OP REPRESENTATIVE NAME AND TITLE> (please print)
CUSTOMER SIGNATURE	SIGNATURE

CONFIDENTIAL

EXHIBIT DC-5
MAP AND PLANS OF COMMUNITY SOLAR FACILITY

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

THE APPLICATION OF EAST KENTUCKY POWER COOPERATIVE, INC. FOR ISSUANCE OF A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY, APPROVAL OF CERTAIN ASSUMPTION OF EVIDENCES OF INDEBTEDNESS AND ESTABLISHMENT OF A COMMUNITY SOLAR TARIFF	))))))	CASE NO. 2016-_____

DIRECT TESTIMONY OF TOM STACHNIK
ON BEHALF OF EAST KENTUCKY POWER COOPERATIVE, INC.

Filed: July 21, 2016

I. Introduction

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

A. My name is Tom Stachnik and my business address is East Kentucky Power Cooperative, Inc. ("EKPC"), 4775 Lexington Road, Winchester, Kentucky 40391. I am Treasurer and Director of Finance at EKPC.

Q. PLEASE BRIEFLY DESCRIBE YOUR EDUCATION AND PROFESSIONAL EXPERIENCE.

A. I have a Bachelor's degree in Chemical Engineering from the University of Illinois and an MBA from the University of Chicago. After a ten-year engineering career, I made the switch to Finance. I had worked in the Treasury Department of Brown-Forman Corporation for 13 years before joining EKPC in August 2015.

Q. PLEASE BRIEFLY DESCRIBE YOUR DUTIES AT EKPC.

A. At EKPC I am responsible for the management and direction of the treasury area including borrowing, investing, and cash management. I also oversee the financial forecasting, budgeting, and risk management functions.

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

A. The purpose of my testimony is first to describe how EKPC intends to finance the proposed construction of an eight and a half (8.5) MW community solar facility on the premises of its headquarters in Clark County, Kentucky ("Project") and provide an overview of EKPC's assumption of certain evidences of indebtedness related to the Project.

Q. ARE YOU SPONSORING ANY EXHIBITS?

A. Yes. I am sponsoring the following exhibits, which I ask be incorporated into my testimony by reference:

- Exhibit TS-1 is the schedule of EKPC's property value and property cost;
- Exhibit TS-2 is the EKPC financial exhibit required by 807 KAR 5:001 Section 12; and
- Exhibit TS-3 is the estimate of Project costs under the Uniform System of Accounts, as required by 807 KAR 5:001 Section 18(2)(c).

Each of these exhibits was prepared by me, under my supervision, or at my request.

II. EKPC Financial Overview and Description of Proposed Transaction

Q. PLEASE GENERALLY DESCRIBE EKPC'S FINANCIAL PERFORMANCE DURING THE MOST RECENT YEAR.

A. EKPC has enjoyed several years of excellent performance as a result of weather patterns, cost control, and benefits from its membership in PJM Interconnection, LLC ("PJM"). For the year ended December 31, 2015, EKPC had sales to member cooperatives of 12,489,945 MWh resulting in total operating revenue of $885 million. EKPC earned a net margin of $49 million and ended the year with $512 million in Members' Equities. EKPC's equity-to-assets ratio was 15.4%, which achieved the Board of Directors' goal of a 15% equity-to-assets ratio by the end of 2015. EKPC's Debt Service Coverage (DSC) ratio was a healthy 1.26 and its Times Interest Earned Ratio (TIER) was 1.44. Additional detail concerning EKPC's financial performance for the most recent twelve (12) months ending April 30, 2016, is contained in the Financial Exhibit attached hereto as Exhibit TS-2.

Q. HAS EKPC ENTERED INTO AN AGREEMENT TO CONSTRUCT THE COMMUNITY SOLAR PROJECT?

A. Yes. On June 30, 2016, EKPC and Lendlease (US) Public Partnerships, LLC, ("Lendlease") entered into a Turnkey Engineering, Procurement and Construction Agreement ("EPC Agreement") whereby Lendlease will (subject to Commission approval and other terms and conditions set forth in the EPC Agreement) engineer, procure and construct the proposed community solar facility for the total consideration of $16.4 million. The total cost of constructing the Project is estimated to be $17,654,529. This consists of the costs enumerated in the EPC Agreement with Lendlease plus costs accrued directly by EKPC. The costs in the EPC Agreement have been adjusted for the fact that the quote included concrete foundations for 100% of the panels, while, with further testing, it is now estimated that this cost will only need to be incurred for about 20% of the panels. A detail of these costs is given in Exhibit TS-3.

III. Financing of the Community Solar Project

Q. HOW DOES EKPC INTEND TO FINANCE THE CONSTRUCTION OF THE PROPOSED COMMUNITY SOLAR PROJECT?

A. EKPC intends to finance the Project with New Clean Renewable Energy Bonds ("New CREBs").

Q. PLEASE EXPLAIN WHAT CREBS ARE AND HOW THEY CAME ABOUT.

A. The Federal Energy Policy Act of 2005 established the original CREBs program ("Old CREBs"). They were established as a financing mechanism for public sector

renewable energy projects. Originally, $800 million in tax credit bonds were allocated by Congress to be issued between January 1, 2006 and December 31, 2007. After the enactment of the federal Tax Relief and Health Care Act of 2006, the Internal Revenue Service ("IRS") made an additional $400 million available for 2008. The Energy Improvement and Extension Act of 2008 allocated $800 million for additional Old CREBs. In February 2009, Congress passed the American Recovery and Reinvestment Act of 2009, which continued the program and added an additional $1.6 billion for New CREBs. In October 2009, the Department of Treasury announced the allocation of $2.2 billion in New CREBs for 805 projects and a new solicitation was issued in September 2010 for approximately $191 million in unallocated New CREBs bond issuances exclusively available to electric cooperatives.

Participation in the program is limited to the volume of bonds allocated by Congress. Participants must first apply to the IRS for New CREBs allocation. The New CREBs allocations do not have a defined expiration date, but recent IRS solicitations for new applications require the bonds to be issued within three years after the applicant receives notification of approval. As of IRS Notice 2015-12 (March 9, 2015), $280,778,469 has been allocated for rural electric cooperatives, such as EKPC. Per the IRS website, as of May 1, 2016, available volume cap is $203,122,775.

Old CREBs were used by certain entities to finance renewable energy projects. The bondholder receives federal tax credits in lieu of a portion of the traditional bond interest, which results in a lower interest rate. The issuer is

responsible for repaying the principal. Old CREBs differ from other tax-exempt bonds in that the tax credits are treated as taxable income for the bondholder. The tax credit can be taken each year that the bondholder has a tax liability as long as the credit does not exceed the limits established by the federal Energy Policy Act of 2005. The process has been simplified under New CREBs, in which taxable debt is issued to an investor and the issuer receives a direct subsidy from the U.S. Treasury.

Q. AS PART OF ITS APPLICATION IN THIS MATTER, DOES EKPC SEEK COMMISSION APPROVAL OR AUTHORIZATION UNDER KRS 278.300 OF THE FINANCING ASPECTS OF THE PROPOSED ACQUISITION?

A. Yes.

Q. WHAT COMMISSION APPROVAL OR AUTHORIZATION UNDER KRS 278.300 DOES EKPC SEEK IN THIS MATTER?

A. EKPC is seeking Commission approval to issue taxable bonds directly to the National Rural Utilities Cooperative Financing Corporation ("CFC") at a market rate of interest. In return, EKPC will receive a direct subsidy payment from the U.S. Treasury to offset this interest expense. The subsidy is set at 70% of the published IRS Tax Credit Bond Rate and the term of the loan can vary depending on the date of issuance. The New CREBS bonds will be secured by EKPC's Trust Indenture.

Q. WERE OTHER FORMS OF FINANCING CONSIDERED FOR THIS PROJECT?

A. Yes, other forms of financing were considered for this project that could have possibly taken advantage of a federal tax credit that is available to qualified renewable energy projects, such as this Project. Some of the other forms of financing considered were a lease, a power purchase agreement and a tax-equity partnership. All of them were more complex and risky, with potentially hidden costs, while providing little or no net present value benefit.

Q. WHY DID EKPC DECIDE TO FINANCE THE PROJECT WITH NEW CREBs?

A. As mentioned, New CREBs financing was less risky, less complex and potentially less costly than the other forms of financing that were considered for this Project. None of the alternative options offered a significantly better net present value of future cash flows.

IV. Financial Impact of the Proposed Transaction

Q. WHAT DOES EKPC ESTIMATE WILL BE THE ANNUAL OPERATIONS AND MAINTENANCE EXPENSES ASSOCIATED WITH THE COMMUNITY SOLAR PROJECT?

A. EKPC anticipates that the annual operations and maintenance expense for the Community Solar Project will be approximately $60,000 for the first year. Future year operations and maintenance expenses are assumed to increase by two percent (2%) per year. The cost of replacing inverters is not included in this estimate, however.

Q. PLEASE GENERALLY DESCRIBE THE FINANCIAL IMPACT OF THE PROPOSED COMMUNITY SOLAR PROJECT ON EKPC'S OWNER-MEMBERS.

A. EKPC does not anticipate any discernable financial impact to its Members as a result of the Project. EKPC's goal in the structure of the proposed Project was to have minimal to no financial impact on its Members. The Project is designed so that participating retail customers will fully cover the costs of their participation over the full term of their individual license. To the extent that any portion of the community solar facility is unsubscribed, it will be deemed to be a system resource paid for by all of EKPC's Members just as if it were any other generation resource. The relatively small size and scale of the community solar facility means that there will be no discernable impact to retail customers as a result of the development of the Project.

V. Conclusions

Q. WHY SHOULD THE COMMISSION GRANT THE RELIEF EKPC REQUESTS PURSUANT TO KRS 278.300?

A. As set forth in David Crews' testimony, this Project helps fulfill EKPC Board's Strategic Plan by diversifying EKPC's generation portfolio to become less reliant on coal-fired generation and adds an additional renewable energy offering to EKPC's Members and the Members' retail customers. The Project also implements recommendations from the DSM Collaborative and keeps EKPC well-positioned to comply with existing and forthcoming environmental regulations, all while increasing access to renewable energy resources for those retail customers who

otherwise would not be able to install solar panels at their premises. Furthermore, with respect to the proposed financing of the Project, the issuance of the New CREBs is for a lawful object within the corporate purposes of EKPC and is necessary, appropriate and consistent with the proper performance of EKPC's service to the public. Moreover, the New CREBs financing will not impair EKPC's ability to perform that service and it is a reasonably necessary and appropriate action for EKPC's effort to accomplish that purpose.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes.

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

THE APPLICATION OF EAST KENTUCKY POWER COOPERATIVE, INC. FOR ISSUANCE OF A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY, APPROVAL OF CERTAIN ASSUMPTION OF EVIDENCES OF INDEBTEDNESS AND ESTABLISHMENT OF A COMMUNITY SOLAR TARIFF	))))))	CASE NO. 2016-_____

VERIFICATION OF TOM STACHNIK

COMMONWEALTH OF KENTUCKY)
)
COUNTY OF CLARK)

Tom Stachnik, Treasurer and Director of Finance at East Kentucky Power Cooperative, Inc., being duly sworn, states that he has read the foregoing prepared direct testimony and that he would respond in the same manner to the questions if so asked upon taking the stand, and that the matters and things set forth therein are true and correct to the best of his knowledge, information and belief.

Tom J. Stachnik

Tom Stachnik

The foregoing Verification was signed, acknowledged and sworn to before me this 20th day of July, 2016, by Tom Stachnik.

Gwyn M. Willoughby

NOTARY PUBLIC, Notary # 601144

Commission expiration: 11/30/17

GWYN M. WILLOUGHBY
Notary Public
State at Large
Kentucky
My Commission Expires Nov 30, 2017

EXHIBIT TS-1
SCHEDULE OF PROPERTY VALUE
AND PROPERTY COST

Exhibit TS-1

EAST KENTUCKY POWER COOPERATIVE, INC.

DESCRIPTION OF PROPERTY
AS OF APRIL 30, 2016

807 KAR 5:001, Section 18(1)(a)

East Kentucky Power Cooperative, Inc. ("EKPC"), with headquarters in Winchester, Kentucky, is a generation and transmission cooperative providing wholesale electric power service to 16 member cooperatives with over 2,843 miles of transmission lines.

EKPC owns and operates two coal-fired generating stations in Kentucky located at Burnside (Cooper Station), and Maysville (Spurlock Station). Eleven combustion turbines located in Clark County at its Smith site and Oldham County at its Bluegrass site are in operation. In addition, EKPC owns and operates six Landfill Gas-Fired plants (located in Greenup County, Laurel County, Boone County, Hardin County, Pendleton County, and Barren County).

Including the generation facilities, transmission facilities, and general plant, EKPC has total utility plant-in-service with an original cost of $4,025,169,772 and construction work-in-progress of $57,861,576.

EXHIBIT TS-2

FINANCIAL EXHIBIT REQUIRED BY

807 KAR 5:001 SECTION 12

EAST KENTUCKY POWER COOPERATIVE, INC.

BONDS, NOTES OUTSTANDING, AND OTHER INDEBTEDNESS

807 KAR 5:001, Sections 12(2)(e), and 12(2)(f), 12(2)(g)

On page 2 of this Exhibit is a Description of Bonds Outstanding as of April 30, 2016. All Bonds are secured by the Trust Indenture.

On Pages 3 through 8 of this Exhibit are the Descriptions of Notes Outstanding as of April 30, 2016. All Notes are secured by the Trust Indenture, except where indicated as unsecured. Payments due on outstanding debt due in one year or less is included as Current Maturities in the amount of $92,410,729.75. Sick Leave Reserve of $279,303.43 is noted as long-term debt as required by RUS accounting procedures.

EKPC has no other indebtedness.

Indebtedness

Bonds

Type of Debt Issue	Amount Outstanding 3/31/2016	Amount Issued	Issuer	Date Issued	Face Value	Coupon Interest Rate	Date of Maturity	Interest 2015
Private Placement Bonds	194,000,000.00	200,000,000.00	US Bank	2/6/2014	194,000,000.00	Fixed	02-06-2044	9,178,381.97
Cooper Solid Waste Disposal Bonds	5,000,000.00	11,800,000.00	County of Pulaski	12/15/1993	5,000,000.00	Variable	08-15-2023	27,999.98
Total Bonds	**199,000,000.00**							9,206,381.95

Notes

Type of Debt Issue	Date of Issue	Date of Maturity	Amount Outstanding 4/30/2016	Amount Issued	Coupon Interest Rate	Interest 2015
National Rural Utilities Cooperative Finance Corporation ("CFC")						
CFC # 9033 P-12	08-29-1984	05-31-2019	1,543,544.29	8,530,000.00	3.300%	60,106.40
CFC # 9034 R-12	06-12-1995	11-30-2024	3,230,496.03	6,734,000.00	3.300%	110,427.18
CFC # 9038 T-62	03-02-1998	02-28-2024	2,436,732.13	5,251,000.00	3.300%	83,933.98
CFC - Unsecured Credit Facility - #5106002	08-09-2011	10-03-2018	300,000,000.00	300,000,000.00	1.440%	903,488.89
Clean Renewable Energy Bonds	02-06-2008	12/1/2023	4,003,944.63	8,613,048.00	0.400%	17,169.55
NCSC Unsecured -#9061006	12-30-2010	11-30-2016	1,286,763.54	1,707,115.00	4.050%	69,138.16
NCSC Unsecured -#9061007	12-30-2010	11-30-2017	1,795,642.00	1,795,642.00	4.350%	78,110.44
NCSC Unsecured -#9061008	12-30-2010	11-30-2018	1,886,964.00	1,886,964.00	4.650%	87,743.84
NCSC Unsecured -#9061009	12-30-2010	11-30-2019	1,836,229.00	1,836,229.00	4.850%	89,057.12
NCSC Unsecured -#9061010	12-30-2010	11-30-2020	1,335,822.00	1,335,822.00	5.050%	67,459.00
NCSC Unsecured -#9061011	12-30-2010	11-30-2021	1,544,167.00	1,544,167.00	5.150%	79,524.60
NCSC Unsecured -#9061012	12-30-2010	11-30-2022	1,389,610.00	1,389,610.00	5.250%	72,954.52
NCSC Unsecured -#9061013	12-30-2010	11-30-2023	980,127.00	980,127.00	5.400%	52,926.84
NCSC Unsecured -#9061014	12-30-2010	11-30-2024	325,315.00	325,315.00	5.500%	17,892.32
		Total CFC	323,595,356.62			1,789,932.84
Rural Utilities Service Notes						
T62-1-B650	03-02-1998	12-31-2024	2,976,864.68	6,125,500.00	5.125%	166,091.77
T62-1-B655	03-02-1998	12-31-2024	2,976,864.68	6,125,500.00	5.125%	166,091.77
		Total RUS	5,953,729.36			332,183.54
Federal Financing Bank Notes						
H0295	01-18-1982	12-31-2016	245,126.48	3,732,000.00	7.991%	40,891.76
H0305	01-22-1982	12-31-2016	23,659.48	360,000.00	7.991%	3,946.47
H0310	02-17-1982	12-31-2016	29,772.77	506,000.00	6.591%	4,121.58
H0315	02-18-1982	12-31-2016	363,538.92	6,181,000.00	6.591%	50,326.85
H0325	03-15-1982	12-31-2016	541,120.81	9,307,000.00	6.591%	74,910.52
H0330	03-22-1982	12-31-2016	30,830.88	530,000.00	6.591%	4,268.09
H0335	04-19-1982	12-31-2016	36,859.13	560,000.00	7.991%	6,148.87
H0340	05-17-1982	12-31-2016	19,746.88	300,000.00	7.991%	3,294.11
H0345	05-24-1982	12-31-2016	264,642.02	4,000,000.00	7.991%	44,147.14
H0350	06-14-1982	12-31-2016	463,018.53	7,000,000.00	7.991%	77,240.19
H0355	06-15-1982	12-31-2016	104,078.57	1,570,000.00	7.991%	17,362.26
H0360	07-14-1982	12-31-2016	407,154.66	6,131,000.00	7.991%	67,920.96
H0365	07-16-1982	12-31-2016	59,768.46	900,000.00	7.991%	9,970.47
H0370	08-16-1982	12-31-2016	28,610.25	430,000.00	7.991%	4,772.62
H0375	08-16-1982	12-31-2016	270,721.41	4,069,000.00	7.991%	45,161.41

Notes

Type of Debt Issue	Date of Issue	Date of Maturity	Amount Outstanding 4/30/2016	Amount Issued	Coupon Interest Rate	Interest 2015
H0385	09-13-1982	12-31-2016	540,644.75	8,126,000.00	7.991%	90,189.67
H0390	09-14-1982	12-31-2016	39,920.41	600,000.00	7.991%	6,659.41
H0395	10-14-1982	12-31-2016	133,430.03	2,000,000.00	7.991%	22,258.64
H0400	10-14-1982	12-31-2016	80,058.42	1,200,000.00	7.991%	13,355.22
H0405	10-14-1982	12-31-2016	298,818.38	4,479,000.00	7.991%	49,848.39
H0410	11-10-1982	12-31-2016	59,953.97	900,000.00	7.991%	10,001.35
H0415	11-10-1982	12-31-2016	39,968.49	600,000.00	7.991%	6,667.51
H0420	11-10-1982	12-31-2016	366,379.74	5,500,000.00	7.991%	61,118.94
H0425	12-13-1982	12-31-2016	93,385.23	1,400,000.00	7.991%	15,578.33
H0430	12-13-1982	12-31-2016	460,251.45	6,900,000.00	7.991%	76,778.58
H0435	01-17-1983	12-31-2017	153,305.97	1,200,000.00	5.913%	13,238.02
H0440	02-14-1983	12-31-2017	615,456.87	4,800,000.00	5.913%	53,144.94
H0445	03-16-1983	12-31-2017	63,949.73	500,000.00	5.913%	5,522.10
H0450	03-16-1983	12-31-2017	831,352.21	6,500,000.00	5.913%	71,787.57
H0455	04-14-1983	12-31-2017	320,071.66	2,500,000.00	5.913%	27,638.32
H0460	04-14-1983	12-31-2017	601,735.28	4,700,000.00	5.913%	51,960.08
H0465	05-16-1983	12-31-2017	121,537.03	950,000.00	5.913%	10,494.79
H0470	06-15-1983	12-31-2017	89,929.35	700,000.00	5.913%	7,765.42
H0475	06-15-1983	12-31-2017	899,289.00	7,000,000.00	5.913%	77,653.94
H0480	07-14-1983	12-31-2017	577,049.30	4,500,000.00	5.913%	49,828.43
H0485	08-16-1983	12-31-2017	128,409.41	1,000,000.00	5.913%	11,088.18
H0490	09-27-1983	12-31-2017	102,637.32	800,000.00	5.913%	8,862.76
H0495	09-27-1983	12-31-2017	256,592.08	2,000,000.00	5.913%	22,156.84
H0500	10-24-1983	12-31-2017	129,394.56	1,000,000.00	5.913%	11,173.27
H0505	10-24-1983	12-31-2017	129,394.56	1,000,000.00	5.913%	11,173.26
H0510	05-09-1984	12-31-2018	3,368,637.03	16,500,000.00	6.665%	287,457.60
H0515	01-17-1985	12-31-2019	1,532,585.09	5,900,000.00	5.991%	110,350.55
H0525	05-20-1985	12-31-2019	294,033.74	1,130,000.00	5.991%	21,171.27
H0530	06-24-1985	12-31-2019	187,701.11	720,000.00	5.991%	13,515.03
H0545	03-18-1986	12-31-2020	561,821.57	1,897,000.00	5.177%	33,686.60
H0555	04-16-1986	12-31-2020	55,398.43	188,000.00	5.177%	3,321.66
H0565	10-14-1986	12-31-2020	736,895.97	2,480,000.00	5.177%	44,184.00
H0570	10-30-1986	12-31-2020	1,496,928.20	5,035,000.00	5.177%	89,755.24
H0575	11-06-1995	12-31-2023	6,856,282.54	14,895,000.00	6.301%	468,683.95
H0580	11-06-1995	12-31-2024	14,376,531.53	28,812,000.00	6.306%	972,442.07
H0585	11-06-1995	12-31-2024	14,376,531.53	28,812,000.00	6.306%	972,442.07
H0590	11-06-1995	12-31-2024	14,376,531.53	28,812,000.00	6.306%	972,442.07
H0595	01-26-1996	12-31-2024	2,914,185.02	5,836,000.00	6.123%	191,521.21
H0600	06-25-1997	12-31-2023	1,711,176.37	3,607,000.00	6.297%	116,900.56
H0605	09-14-2000	12-31-2024	3,220,624.84	6,082,000.00	6.005%	207,760.65
H0610	09-15-2000	12-31-2024	3,542,931.08	6,626,000.00	6.067%	230,758.77
H0615	04-10-2001	12-31-2024	5,040,778.12	9,681,000.00	5.451%	295,768.10
H0620	06-05-2001	12-31-2024	4,334,177.91	8,119,000.00	5.726%	266,751.89
H0625	07-10-2001	12-31-2024	4,339,120.01	8,119,000.00	5.729%	267,193.10
H0630	08-10-2001	12-31-2024	4,286,232.65	8,119,000.00	5.488%	253,053.20
H0635	09-06-2001	12-31-2024	4,288,254.91	8,119,000.00	5.426%	250,368.69

Notes

Type of Debt Issue	Date of Issue	Date of Maturity	Amount Outstanding 4/30/2016	Amount Issued	Coupon Interest Rate	Interest 2015
H0640	10-03-2001	12-31-2024	5,725,012.58	11,000,000.00	5.104%	314,787.49
H0645	11-08-2001	12-31-2024	6,808,706.91	13,357,000.00	4.709%	345,906.53
H0650	12-10-2001	12-31-2024	4,277,460.94	7,970,000.00	5.644%	259,567.59
H0655	01-15-2002	12-31-2030	13,861,334.37	20,000,000.00	5.447%	783,744.42
H0660	06-04-2002	12-31-2030	4,231,003.37	6,000,000.00	5.678%	249,191.24
H0665	07-02-2002	12-31-2030	4,206,295.86	6,000,000.00	5.538%	241,734.67
H0670	08-15-2002	12-31-2024	8,002,474.73	15,000,000.00	4.695%	405,556.24
H0675	08-22-2002	12-31-2024	5,361,867.67	10,000,000.00	4.802%	277,814.91
H0680	09-24-2002	12-31-2024	7,878,080.33	15,000,000.00	4.366%	371,735.77
H0685	10-03-2002	12-31-2024	5,254,327.41	10,000,000.00	4.375%	248,433.74
H0690	11-05-2002	12-31-2024	8,010,771.30	15,000,000.00	4.717%	407,845.43
H0695	12-10-2002	12-31-2024	5,322,153.25	10,000,000.00	4.644%	266,841.83
H0700	01-23-2003	12-31-2024	1,827,959.75	3,500,000.00	4.557%	89,920.36
H0705	01-23-2003	12-31-2030	4,449,078.70	6,500,000.00	4.790%	221,691.58
H0710	02-27-2003	12-31-2030	2,174,294.80	3,200,000.00	4.624%	104,645.76
H0715	05-06-2003	12-31-2024	2,266,635.24	4,300,000.00	4.442%	108,784.07
H0720	07-03-2003	12-31-2032	18,335,032.83	25,000,000.00	4.460%	846,168.01
H0725	07-17-2003	12-31-2032	18,583,827.27	25,000,000.00	4.819%	925,606.68
H0730	07-24-2003	12-31-2032	18,523,810.84	24,800,000.00	4.950%	947,302.64
H0735	08-26-2003	12-31-2024	2,134,747.21	3,938,000.00	5.055%	116,272.30
H0740	10-02-2003	12-31-2030	1,766,292.31	2,550,000.00	4.753%	87,342.89
H0745	10-02-2003	12-31-2024	1,406,110.50	2,660,000.00	4.501%	68,365.44
H0750	10-23-2003	12-31-2032	18,768,528.23	25,000,000.00	5.091%	986,719.06
H0755	11-04-2003	12-31-2032	18,807,482.78	25,000,000.00	5.149%	999,850.26
H0760	11-14-2003	12-31-2032	18,751,016.54	25,000,000.00	5.065%	980,843.93
H0765	11-25-2003	12-31-2032	18,714,548.99	25,000,000.00	5.011%	968,664.17
H0770	12-04-2003	12-31-2032	20,312,081.16	27,000,000.00	5.149%	1,079,838.28
H0775	02-05-2004	12-31-2030	4,542,541.56	6,500,000.00	4.854%	229,324.14
H0780	05-06-2004	12-31-2030	1,611,170.80	2,260,000.00	5.240%	87,694.85
H0785	05-06-2004	12-31-2024	2,268,740.36	4,130,000.00	5.020%	122,787.38
H0790	08-26-2004	12-31-2030	11,954,541.10	16,900,000.00	4.921%	611,703.42
H0795	11-01-2004	12-31-2030	4,714,635.35	6,700,000.00	4.672%	229,227.17
H0800	11-16-2004	12-31-2030	2,290,799.99	3,240,000.00	4.795%	114,264.70
H0805	11-16-2004	12-31-2024	3,084,232.33	5,644,000.00	4.577%	152,444.51
H0810	12-16-2004	12-31-2038	41,518,797.33	50,000,000.00	4.744%	2,011,464.72
H0815	12-22-2004	12-31-2038	41,619,593.50	50,000,000.00	4.825%	2,050,304.15
H0820	12-29-2004	12-31-2038	41,768,586.10	50,000,000.00	4.946%	2,108,528.60
H0825	02-02-2005	12-31-2038	20,705,426.21	25,000,000.00	4.658%	985,175.45
H0830	02-08-2005	12-31-2038	20,603,101.96	25,000,000.00	4.497%	946,865.40
H0835	05-10-2005	12-31-2038	20,734,981.66	25,000,000.00	4.705%	996,402.09
H0840	06-02-2005	12-31-2038	20,496,505.16	25,000,000.00	4.332%	907,846.66
H0845	06-07-2005	12-31-2038	15,573,382.19	19,000,000.00	4.324%	688,530.53
H0850	06-09-2005	12-31-2030	6,908,256.50	13,192,000.00	4.353%	328,773.89
H0855	08-26-2005	12-31-2038	24,701,392.46	30,000,000.00	4.468%	1,127,987.44
H0860	08-30-2005	12-31-2038	24,702,934.38	30,000,000.00	4.470%	1,128,556.16
H0865	08-19-2005	12-31-2030	2,609,561.80	3,675,000.00	4.485%	121,876.45

Notes

Type of Debt Issue	Date of Issue	Date of Maturity	Amount Outstanding 4/30/2016	Amount Issued	Coupon Interest Rate	Interest 2015
H0870	10-14-2005	12-31-2038	24,929,998.77	30,000,000.00	4.769%	1,214,064.19
H0875	11-09-2005	12-31-2030	1,500,799.92	2,075,000.00	4.858%	75,827.32
H0880	11-09-2005	12-31-2024	322,179.60	566,000.00	4.789%	16,648.75
H0885	03-27-2006	12-31-2032	4,958,896.51	6,500,000.00	4.890%	250,570.46
H0890	05-03-2006	12-31-2038	12,755,928.08	15,000,000.00	5.345%	695,124.14
H0895	05-09-2006	12-31-2038	8,501,228.79	10,000,000.00	5.333%	462,242.42
H0900	08-23-2006	12-31-2034	12,183,433.14	15,000,000.00	5.070%	634,771.71
H0905	08-25-2006	12-31-2034	12,180,415.79	15,000,000.00	5.061%	633,505.11
H0910	08-29-2006	12-31-2034	18,672,521.87	23,000,000.00	5.053%	969,648.71
H0915	03-14-2007	12-31-2038	19,490,315.35	23,000,000.00	4.776%	950,531.73
H0920	03-16-2007	12-31-2038	19,717,297.32	23,251,000.00	4.812%	968,750.87
H0925	11-01-2007	12-31-2040	44,324,588.33	50,000,000.00	4.821%	2,175,921.49
H0930	11-08-2007	12-31-2040	22,123,971.38	25,000,000.00	4.736%	1,067,177.44
H0935	11-14-2007	12-31-2040	44,186,996.79	50,000,000.00	4.669%	2,101,648.55
H0940	12-05-2007	12-31-2040	21,961,252.43	25,000,000.00	4.384%	981,558.82
H0945	12-11-2007	12-31-2040	44,167,797.94	50,000,000.00	4.648%	2,091,408.03
H0950	12-12-2007	12-31-2040	21,861,217.59	25,000,000.00	4.511%	1,005,031.83
H0955	12-19-2007	12-31-2040	44,128,342.16	50,000,000.00	4.605%	2,070,455.43
H0960	01-03-2008	12-31-2032	8,594,375.41	11,000,000.00	4.338%	385,939.14
H0965	01-03-2008	12-31-2040	7,029,410.19	8,000,000.00	4.396%	315,028.92
H0970	01-09-2008	12-31-2040	9,591,496.04	11,000,000.00	4.385%	428,788.77
H0975	02-05-2008	12-31-2040	17,558,045.92	20,000,000.00	4.355%	779,630.76
H0980	02-12-2008	12-31-2040	17,562,961.45	20,000,000.00	4.368%	782,147.88
H0985	05-22-2008	12-31-2040	22,028,138.85	25,000,000.00	4.527%	1,016,252.11
H0990	05-30-2008	12-31-2040	22,132,118.12	25,000,000.00	4.754%	1,071,575.16
H0995	06-04-2008	12-31-2040	22,072,441.01	25,000,000.00	4.623%	1,039,611.82
H1000	10-14-2008	12-31-2040	6,926,881.50	7,900,000.00	4.298%	303,598.64
H1005	10-14-2008	12-31-2032	3,337,085.98	4,200,000.00	4.306%	148,765.60
H1010	11-07-2008	12-31-2040	21,943,771.53	25,000,000.00	4.347%	972,602.72
H1015	11-10-2008	12-31-2040	21,971,142.26	25,000,000.00	4.405%	986,645.79
H1020	12-18-2008	12-31-2040	6,267,492.07	7,400,000.00	2.846%	182,723.74
H1025	03-17-2009	12-31-2038	3,081,280.01	3,612,000.00	3.801%	119,944.11
H1030	04-16-2009	12-31-2040	21,568,433.44	25,000,000.00	3.651%	804,572.68
H1035	05-15-2009	12-31-2040	31,120,798.25	35,000,000.00	3.988%	1,266,764.73
H1040	05-27-2009	12-31-2040	22,387,030.93	25,000,000.00	4.374%	998,335.08
H1045	06-04-2009	12-31-2040	22,393,831.69	25,000,000.00	4.391%	1,002,471.12
H1055	06-08-2009	12-31-2040	35,965,353.87	40,000,000.00	4.605%	1,054,660.38
H1050	06-08-2009	12-31-2040	22,478,346.18	25,000,000.00	4.605%	1,687,456.60
H1060	06-15-2009	12-31-2040	22,476,394.75	25,000,000.00	4.600%	1,053,438.41
H1065	06-29-2009	12-31-2040	12,836,440.59	14,596,000.00	4.252%	556,661.47
H1070	06-30-2009	12-31-2040	22,341,903.08	25,000,000.00	4.262%	971,123.23
H1075	07-09-2009	12-31-2040	22,275,639.41	25,000,000.00	4.100%	931,880.02
H1080	07-17-2009	12-31-2040	11,417,042.87	12,900,000.00	4.382%	510,055.18
H1085	07-20-2009	12-31-2040	22,422,889.71	25,000,000.00	4.464%	1,020,248.34
H1090	08-05-2009	12-31-2039	8,894,991.19	10,000,000.00	4.396%	399,157.49
H1100	08-10-2009	12-31-2040	22,464,270.88	25,000,000.00	4.569%	1,045,865.04

Notes

Type of Debt Issue	Date of Issue	Date of Maturity	Amount Outstanding 4/30/2016	Amount Issued	Coupon Interest Rate	Interest 2015
H1095	08-12-2009	12-31-2040	22,393,432.14	25,000,000.00	4.390%	1,002,227.78
H1105	09-15-2009	12-31-2040	17,834,345.08	20,000,000.00	4.142%	753,632.57
H1110	09-16-2009	12-31-2040	17,851,385.01	20,000,000.00	4.194%	763,706.98
H1115	09-22-2009	12-31-2040	17,845,170.04	20,000,000.00	4.175%	760,024.58
H1120	09-23-2009	12-31-2039	17,705,029.85	20,000,000.00	4.137%	748,263.00
H1125	10-01-2009	12-31-2039	16,769,156.45	19,000,000.00	3.978%	681,798.34
H1130	10-01-2009	12-31-2040	5,335,194.36	6,000,000.00	3.990%	217,275.44
H1135	11-18-2009	12-31-2039	22,122,968.13	25,000,000.00	4.117%	930,512.69
H1140	11-18-2009	12-31-2039	22,122,968.13	25,000,000.00	4.117%	930,512.69
H1145	11-19-2009	12-31-2039	22,139,174.57	25,000,000.00	4.156%	939,906.06
H1150	11-19-2009	12-31-2039	22,139,174.57	25,000,000.00	4.156%	939,906.06
H1155	01-27-2010	12-31-2039	17,783,827.75	20,000,000.00	4.377%	794,633.44
H1160	01-28-2010	12-31-2040	6,246,003.34	7,000,000.00	4.398%	280,045.63
H1165	02-03-2010	12-31-2039	8,002,138.85	9,000,000.00	4.373%	357,236.36
H1170	02-12-2010	12-31-2040	17,054,620.34	19,000,000.00	4.508%	783,542.00
H1175	06-04-2010	12-31-2023	1,698,258.74	2,714,000.00	3.224%	60,126.82
H1180	06-04-2010	12-31-2034	275,814.03	327,000.00	3.943%	11,215.73
H1185	06-08-2010	12-31-2040	580,327.01	652,000.00	3.922%	23,235.73
H1190	06-08-2010	12-31-2040	1,103,114.14	910,000.00	3.922%	32,430.23
H1195	06-08-2010	12-31-2039	809,965.84	1,249,000.00	3.897%	43,947.90
H1200	06-10-2010	12-31-2039	382,467.90	433,000.00	3.913%	15,299.28
H1205	03-25-2011	12-31-2039	11,167,213.03	12,424,000.00	4.197%	478,716.45
H1210	05-24-2011	12-31-2044	22,196,090.70	24,000,000.00	4.067%	917,197.84
H1215	05-24-2011	12-31-2040	1,640,018.38	1,813,000.00	3.954%	66,194.14
H1220	05-24-2011	12-31-2040	11,459,322.76	12,668,000.00	3.954%	462,519.25
H1225	09-07-2011	12-31-2040	5,787,712.20	6,471,000.00	2.852%	169,088.42
H1230	09-07-2011	12-31-2039	32,690,847.78	36,804,000.00	2.811%	942,766.59
H1235	12-15-2011	12-31-2040	24,246,738.47	27,091,000.00	2.590%	643,872.65
H1240	12-28-2011	12-31-2040	18,816,975.12	21,000,000.00	2.713%	523,193.51
H1245	02-28-2012	12-31-2044	27,571,131.85	30,000,000.00	2.791%	784,852.36
H1250	03-13-2012	12-31-2044	27,662,634.31	30,000,000.00	2.916%	822,393.25
H1255	03-27-2012	12-31-2044	27,703,630.02	30,000,000.00	3.094%	873,395.37
H1260	04-10-2012	12-31-2040	10,016,913.28	11,038,000.00	2.800%	287,359.70
H1265	04-10-2012	12-31-2044	17,543,987.00	18,962,000.00	2.928%	523,698.34
H1270	06-25-2012	12-31-2044	27,224,710.92	29,588,000.00	2.495%	693,478.36
H1275	06-25-2012	12-31-2040	1,514,773.54	1,679,000.00	2.369%	36,821.08
H1280	08-29-2012	12-31-2039	22,552,525.92	25,000,000.00	2.302%	533,574.32
H1285	10-01-2012	12-31-2039	21,808,432.79	24,000,000.00	2.338%	523,970.82
H1290	10-19-2012	12-31-2044	25,161,886.40	27,000,000.00	2.724%	699,227.99
H1295	12-19-2012	12-31-2040	1,115,037.49	1,217,000.00	2.549%	29,145.27
H1300	12-19-2012	12-31-2040	9,162,181.02	10,000,000.00	2.549%	239,484.55
H1305	12-19-2012	12-31-2039	11,848,635.10	13,000,000.00	2.510%	305,431.67
H1310	04-19-2013	12-31-2039	6,462,917.49	7,011,000.00	2.393%	158,900.00
H1315	04-19-2013	12-31-2044	12,862,057.99	13,683,000.00	2.573%	337,781.36
H1320	04-19-2013	12-31-2040	2,945,595.06	3,181,000.00	2.432%	73,489.21
H1325	08-30-2013	12-31-2039	11,041,410.47	11,787,000.00	3.338%	377,454.04

Notes

Type of Debt Issue	Date of Issue	Date of Maturity	Amount Outstanding 4/30/2016	Amount Issued	Coupon Interest Rate	Interest 2015
H1330	10-28-2013	12-31-2039	34,204,496.80	36,347,000.00	3.162%	1,108,278.32
H1335	10-28-2013	12-31-2040	10,687,144.90	11,315,000.00	3.202%	350,136.01
H1340	11-19-2013	12-31-2039	20,228,488.43	21,468,000.00	3.316%	687,008.67
H1345	12-20-2013	12-31-2039	15,981,170.82	16,916,000.00	3.513%	574,639.24
H1350	12-19-2014	12-31-2040	20,280,326.40	21,000,000.00	2.563%	532,874.60
H1355	12-19-2014	12-31-2044	21,026,425.56	21,622,000.00	2.656%	569,731.14
H1360	03-27-2015	12-31-2040	645,900.00	665,000.00	2.378%	12,003.59
		Total FFB	2,302,648,097.45			101,573,877.89
		Less current maturities due in one year or less	(92,413,329.93)			
		COC-1-1 - Payments Unapplied	(298,450,225.47)		5.000%	
		Subtotal excluding bonds	2,241,333,628.03			103,695,994.27
		Annual Debt Fees	N/A			
		Amortization of Issuance Costs	N/A			
			2,241,333,628.03			
		Sick Leave Reserve	279,303.43			
		Total Long-Term Debt and Annualized Cost including bonds	$ 2,440,612,931.46	4/30/2016		$ 112,902,376.22

EAST KENTUCKY POWER COOPERATIVE, INC.
BALANCE SHEET (Unaudited)
807 KAR 5:001, SECTION 12(1)(i)

(Dollars in thousands)

	As of April 30, 2016
ASSETS	
ELECTRIC PLANT:	
In-service	$ 3,955,492
Construction-in-progress	57,862
	4,013,354
Less accumulated depreciation	1,254,151
Electric plant — net	2,759,203
LONG-TERM ACCOUNTS RECEIVABLE	1,327
RESTRICTED CASH AND INVESTMENTS	82,375
INVESTMENT SECURITIES:	
Available for sale	35,314
Held to maturity	8,397
CURRENT ASSETS:	
Cash and cash equivalents	103,290
Restricted investment	223,139
Accounts receivable	54,915
Fuel	68,037
Materials and supplies	59,051
Regulatory assets	3,518
Other current assets	3,938
Total current assets	515,888
REGULATORY ASSETS	165,899
DEFERRED CHARGES	3,058
OTHER NONCURRENT ASSETS	7,566
TOTAL ASSETS	$ 3,579,027
MEMBERS' EQUITIES AND LIABILITIES	
MEMBERS' EQUITIES:	
Memberships	$ 2
Patronage and donated capital	559,170
Accumulated other comprehensive loss	(23,255)
Total members' equities	535,917
LONG-TERM DEBT	2,738,784
CURRENT LIABILITIES:	
Current portion of long-term debt	92,413
Accounts payable	37,380
Accrued expenses	23,550
Total current liabilities	153,343
ACCRUED POSTRETIREMENT BENEFIT COST	90,800
ASSET RETIREMENT OBLIGATIONS AND OTHER LIABILITIES	60,183
TOTAL MEMBERS' EQUITIES AND LIABILITIES	$ 3,579,027

EAST KENTUCKY POWER COOPERATIVE, INC.
STATEMENT OF REVENUE AND EXPENSES AND COMPREHENSIVE MARGIN (Unaudited)
807 KAR 5:001, SECTION 12(1)(l)

(Dollars in thousands)

	Twelve Months Ended April 30, 2016
OPERATING REVENUE	$ 848,639
OPERATING EXPENSES:	
Production:	
Fuel	219,184
Other	146,019
Purchased power	132,210
Transmission and distribution	52,950
Regional market operations	4,294
Depreciation	96,724
General and administrative	53,975
TOTAL OPERATING EXPENSES	705,356
OPERATING MARGIN BEFORE FIXED CHARGES	143,283
FIXED CHARGES AND OTHER:	
Interest expense on long-term debt	113,067
Amortization of debt expense	440
Accretion and other	(136)
TOTAL FIXED CHARGES AND OTHER EXPENSES	113,371
OPERATING MARGIN	29,912
NONOPERATING MARGIN:	
Interest income	10,595
Patronage capital allocations from other cooperatives	155
Other	175
TOTAL NONOPERATING MARGIN	10,925
NET MARGIN	40,837
OTHER COMPREHENSIVE LOSS:	
Unrealized loss on available for sale securities	(81)
Postretirement benefit obligation loss	(19,824)
TOTAL OTHER COMPREHENSIVE LOSS	(19,905)
COMPREHENSIVE MARGIN	$ 20,932

EXHIBIT TS-3
ESTIMATE OF COSTS UNDER THE UNIFORM SYSTEM OF ACCOUNTS

Pursuant to 807 KAR 5:001, Section 18(2)(c), the estimated cost to construct an 8.5 MW community solar facility at EKPC's headquarters in Clark County, Kentucky, using the uniform system of accounts prescribed for EKPC by the Commission, is outlined below.

The estimated cost of construction is approximately $17.7 million. A detail of estimated contract and owner's cost is provided on page 2 of this Exhibit. Costs of construction will be debited to Account 107.2 – Construction Work in Progress as incurred until the project is completed and the facility is declared available for commercial operation. The balance in Account 107.2 will be transferred to Account 106 – Completed Construction not Classified as of the commercial operation date. The balance in Account 106 will then be unitized and distributed to individual RUS plant accounts. Listed below are the RUS plant accounts expected to be affected and the associated estimated cost of project assets meeting the definition of each respective account.

Account	Account Description	Asset Description	Estimated Cost
303	Miscellaneous Intangible Plant	LGE/KU Relay Upgrade	$ 196,600
343	Prime Movers	1700 Solar Panel Strings (19 panels per string)	14,068,635
345	Accessory Electric Equipment	4 PWR XPERT-2000 Inverters	1,199,435
		1 SGI 500XTM Inverter	107,331
		52 Combiner Boxes	272,786
		4 Load Center Panels	41,128
		4 CPS 2000KVA 12.5K-423 Transformers	356,720
		1 CPS 500KVA 12.5-423 Transformer	44,066
		6 Revenue Grade Meters	45,954
		1 Air Break Switch	26,229
		5 Monitoring System	94,426
			2,188,075
346	Miscellaneous Power Plant Equip.	2 Weather Stations	77,219
353	Station Equipment	Transmission-Substation Upgrade	589,800
		Transmission-Metering	171,240
			761,040
355	Poles and Fixtures	23 Transmission Poles & Accessories	316,579
356	Overhead Conductors & Devices	15,400 ft.Transmission Conductor	46,381
			$ 17,654,529

DESCRIPTION	ESTIMATED COST
Contract Costs:	
30% Design	$72,769.74
80% Design	$50,938.82
90% IFP Design	$14,553.95
100% IFC Design	$7,276.97
Precon/Design Management and General Conditions	$181,613.00
Construction Mobilization	$245,227.03
SWPPP Controls	$144,290.52
Site Civil	$559,121.02
Fencing	$154,319.37
Foundations - Installation (type 1 piles)	$238,516.25
Racking - Material (includes type 1 piles)	$1,232,684.40
Racking - Installation	$346,233.26
Modules - Material	$6,935,174.72
Modules - Installation	$184,657.79
Inverters/Transformers - Material	$1,215,970.56
DC Cable - material	$149,570.36
String Wiring Harnesses - material	$154,137.86
Combiner Boxes - material	$106,126.05
Grounding - material	$47,392.32
MV Cable - material	$194,574.65
Trenching	$178,452.74
DC Installation	$1,218,516.05
AC Installation	$34,433.22
Aux Elec Equipment and Installation	$77,939.11
Monitoring	$121,597.06
Commissioning	$9,671.41
Construction General Conditions and Site Logistics	$558,151.55
Insurance / Fee	$838,714.59
Payment and Performance Bond	$86,523.43
Allowance for Foundations - Type 4 Cast in Place	$1,045,965.86
Reduction in Allowance for Foundations (7/13/16)	($836,800.00)
Contract Total	$15,568,313.66
Owner's Costs:	
Geotech Survey	$30,000.00
Environmental	
a. Redwing Ecological Services	$10,000.00
b. Archeological	$18,515.00
c. Above Ground - Cultural Historic Survey	$2,500.00
e. Option 2	$40,000.00
f. Bat Fees (1.6 Acres)	$6,000.00
g. Tree Cutting/Mulching	$10,000.00
Engineering (Internal and B&M)	$149,200.00
Project Management	$62,400.00
Site Management (QA)	$75,000.00
Transmission	$1,099,100.00
Temporary Line	$121,500.00
Transmission Study	$100,000.00
Monitoring System	$92,000.00
Alta Survey	$20,000.00
Topo	$8,000.00
Commissioning	$50,000.00
Sinkhole Repair	$5,000.00
Stream Crossing (Utilities)	$150,000.00
Other	$37,000.00
Owner's Cost Total	$2,086,215.00
Project Grand Totals	**$17,654,528.66**

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

THE APPLICATION OF EAST KENTUCKY POWER COOPERATIVE, INC. FOR ISSUANCE OF A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY, APPROVAL OF CERTAIN ASSUMPTION OF EVIDENCES OF INDEBTEDNESS AND ESTABLISHMENT OF A COMMUNITY SOLAR TARIFF	))))))	CASE NO. 2016-_____

DIRECT TESTIMONY OF TODD BARTLING
ON BEHALF OF EAST KENTUCKY POWER COOPERATIVE, INC.

Filed: July 21, 2016

I. Introduction

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

A. My name is Todd Bartling and I am Vice President of Renewables Development with National Renewables Cooperative Organization ("NRCO"). My business address is 4140 West 99th St. Carmel, Indiana 46033.

Q. WHAT IS NRCO?

A. NRCO exists to assist rural electric cooperatives to either develop own and operate renewable energy projects or procure renewable energy through power purchase agreements ("PPA").

Q. PLEASE SUMMARIZE YOUR EDUCATION AND PROFESSIONAL EXPERIENCE.

A. I hold a Bachelor of Science in Business Administration from the University of Tulsa, an MBA from Indiana University and I am a Chartered Financial Analyst®. Prior to joining NRCO I served as the Director of Member-Client Services and the Director of Structuring with the Alliance for Cooperative Energy Services Power Marketing LLC (ACES). My responsibilities included assisting utilities and IPPs in managing their resources and loads in the wholesale markets, including the analysis of power and natural gas hedging strategies, Financial Transmission Rights (FTR), and valuing generation assets.

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

A. The purpose of my testimony is to describe NRCO's engagement by East Kentucky Power Cooperative, Inc. ("EKPC"), to function as an independent procurement

manager ("IPM") with respect to EKPC's efforts to secure bids for a solar facility. I will describe the Request for Proposals ("RFP") process undertaken in this regard and NRCO's role in that process.

Q. ARE YOU SPONSORING ANY EXHIBITS?

A. Yes. In addition to my *curriculum vitae* (attached hereto as Exhibit TB-1), I am also sponsoring the report dated January 16, 2016 (the "EKPC EPC Vendor Recommendation"), which is attached hereto as Exhibit TB-2. The EKPC EPC Vendor Recommendation details the proposals received as part of the RFP process and reflects the analyses conducted and conclusions reached by NRCO as part of the RFP process. Both my *curriculum vitae* and the EKPC EPC Vendor Recommendation were either prepared directly by me or by someone working under my supervision and direction, and I ask that each be incorporated into my testimony by reference.

II. Background

Q. HAVE YOU PREVIOUSLY OFFERED TESTIMONY BEFORE THIS COMMISSION AND/OR OTHER REGULATORY BODIES?

A. No.

Q. WHAT IS THE ROLE OF AN INDEPENDENT PROCUREMENT MANAGER?

A. The issuer of an RFP may engage an IPM for various reasons. For example, if an issuer anticipates that an affiliate will participate in the RFP process as a bidder, it may engage an IPM to ensure that the process is fair, open, and non-discriminatory. In addition, if a firm such as NRCO has developed an operational and analytical

expertise with a given industry or technology, it makes sense for a utility that is seeking to implement a project using that technology to work with the Firm in the RPF process. NRCO was engaged as an IPM by EKPC due to NRCO's familiarity with the renewable industry and solar technology in particular. It has a thorough understanding of the relevant parties, expressed needs, and available alternatives that should be considered in developing a solar project.

Q. PLEASE DESCRIBE NRCO's EXPERIENCE SERVING AS AN IPM FOR OTHER UTILITIES.

A. Over the last five years NRCO has served as an IPM for electric cooperatives on over forty solar projects.

Q. PLEASE BRIEFLY DESCRIBE THE EXPERTISE AND CONTRIBUTIONS OF THE OTHER MEMBERS OF YOUR NRCO TEAM WHO PARTICIPATED IN THE PREPARATION OF THE NRCO SCREENING ANALYSIS.

A. The NRCO team that contributed to the management of this RFP includes myself the VP of Renewables Development and two Senior Renewables Developers. The team has experience in the following areas: engineering, permitting and development of solar projects, RFP management and analysis and utility operations in wholesale electricity markets including trading, transmission analysis, hedging and acquisition of assets.

III. The Request for Proposals

Q. WHY DID EKPC UNDERTAKE THE RFP?

A. It is my understanding that EKPC's decision to pursue the RFP was based on its strategic desire to diversify its portfolio, add an additional renewable resource it could offer to its Members and ultimately to the retail customers and further other corporate goals and objectives.

Q. WHAT WAS NRCO's ROLE IN THE RFP?

A. NRCO was formally retained in September 2015 to assist EKPC, a Member-Owner of NRCO, in a solicitation process for the development of a photovoltaic solar facility. Specifically, NRCO was engaged to develop and market the RFP, select a short list, and report on a recommended course of action. This was a collaborative effort in which NRCO consulted with EKPC's Power Supply planning staff and referenced EKPC's analytical resources and data.

Q. WERE YOU PERSONALLY INVOLVED IN THE RFP PROCESS?

A. Yes. A Senior Renewables Developer who directly reports to me managed the RFP process. He ensured that the list of bidders was contacted, site visits were coordinated, and any questions from bidders were answered prior to the submission deadline. I was also involved in evaluating the responses, the development of the short list of bidders, and I participated in two bidder interviews as well as reviewed the financial comparisons.

Q. WHAT DID EKPC SEEK TO ACQUIRE THROUGH THE RFP?

A. EKPC sought to obtain bids for the development of a photovoltaic community solar facility up to 10 MW, on one of two possible sites owned by EKPC. In addition, details regarding construction timeline, equipment selection and project economics

were gathered. After interviews, shortlisted bidders were asked to finalize pricing for an 8 MW facility located at EKPC's headquarters.

Q. WHAT TYPES OF POWER SUPPLY OPTIONS WAS EKPC WILLING TO CONSIDER AS PART OF THE RFP?

A. EKPC was willing to consider proposals to develop/build a solar array as well as offers for a power purchase agreement ("PPA"). At the time of the RFP, projects with a Commercial Operations Date ("COD") of December 31, 2016 or earlier were preferred because they would likely qualify for federal investment tax credits, although provisions for a later COD were also allowed. The RFP required a PPA term of at least 10 years and not more than 25 years.

Q. HOW DID NRCO MARKET THE RFP?

A. NRCO pursed responses by directly contacting organizations ranging from large multinational solar developers to smaller regional developers, all with solid development experience who had the ability to complete a project prior to the expiration of the Investment Tax Credit. A list of twenty-nine (29) potentially interested parties was jointly developed by NRCO and EKPC.

Q. PLEASE SUMMARIZE THE RESPONSES RECEIVED TO THE RFP.

A. EKPC received nine (9) responses. This response rate was in line with expectations since the RFP was issued late in 2015, with the looming 2016 expiration of tax incentives and developer pipelines possibly fully-subscribed for 2016. EKPC received a diverse number of pricing options and projects from which to select. In summary, nine (9) bidders supplied six (6) develop/build offers and six (6) PPA offers. [redacted]

[redacted] Build-to-transfer bids generally reflect the cost to get a solar array constructed with the general assumption that EKPC would handle interconnection to the distribution system.

Q. DID EKPC SUBMIT ANY SELF-BUILD PROPOSALS AS PART OF THE RFP?

A. No.

Q. WHAT CRITERIA DID YOU APPLY TO EVALUATE PROPOSALS?

A. To develop the shortlist of bidders, NRCO was primarily concerned with three factors. Those were: price (both EPC and PPA), the ability of the bidder to assist with the CPCN process, if needed, and experience with developing and deploying solar projects.

Q. AS PART OF YOUR CONSIDERATION OF THE RESPONSES TO THE RFP, DID YOU TAKE INTO ACCOUNT EKPC'S STRATEGIC OBJECTIVES?

A. Yes. The addition of a solar resource allows EKPC to diversify its generation mix. NRCO provided an evaluation of asset ownership via multiple financing options that allow for Federal Incentives to be utilized, thereby reducing the cost of the resource. Those economics were compared to the cost of procuring power under a PPA.

Q. WHAT DID YOU CONCLUDE BASED ON YOUR ANALYSIS OF THE RESPONSES TO THE RFP?

A. After reviewing all of the applicable criteria, Lend Lease Energy Development, LLC ("Lend Lease") stood out as the developer most capable of successfully constructing a solar project for EKPC. Lend Lease's opening bid for develop/build was the most competitive and their PPA offer was also competitive with other offers of the same scope. Lend Lease was also in the top two for financial backing. Lend Lease was the only shortlist bidder to respond both quickly and thoroughly during the post interview process and they have a track record of successfully developing projects of a similar scope and size. The actual engineering, procurement and construction contract ended up being between EKPC and Lend Lease's parent, Lendlease (US) Public Partnerships, LLC, which provides EKPC with even greater protection for EKPC.

IV. Conclusions

Q. IS IT YOUR PROFESSIONAL OPINION THAT LEND LEASE IS THE SINGLE BEST PROPOSAL FROM AMONG THOSE SUBMITTED TO EKPC THROUGH THE RFP PROCESS?

A. Yes. Lend Lease presented a clear and focused proposal, were nimble and responsive with the follow-up questions, had the most competitive economics, and are supported by a large balance sheet.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes.

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

THE APPLICATION OF EAST KENTUCKY POWER COOPERATIVE, INC. FOR ISSUANCE OF A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY, APPROVAL OF CERTAIN ASSUMPTION OF EVIDENCES OF INDEBTEDNESS AND ESTABLISHMENT OF A COMMUNITY SOLAR TARIFF	))))))	CASE NO. 2016-_____

VERIFICATION OF TODD W. BARTLING

STATE OF INDIANA)
)
COUNTY OF HAMILTON)

Todd W. Bartling, Vice President of Renewables Development at National Renewables Cooperative Organization, being duly sworn, states that he has read the foregoing prepared direct testimony and that he would respond in the same manner to the questions if so asked upon taking the stand, and that the matters and things set forth therein are true and correct to the best of his knowledge, information and belief.

Todd W. Bartling

The foregoing Verification was signed, acknowledged and sworn to before me this 11th day of July, 2016, by Todd Bartling.

NOTARY PUBLIC, Notary
Commission expiration:

Beth A. Burrows
Resident Of
Marion County
My Commission Expires:
8/24/2024

EXHIBIT TB-1
CURRICULUM VITAE

Todd Bartling, CFA

4140 West 99th St
Carmel, IN 46032
317-501-2517
todd.bartling@nrco.coop

Experience:

National Renewables Cooperative Organization **4/09-Present**
Vice President of Renewables Development

Responsible for renewable energy development for rural electric cooperatives

- Successfully negotiated ~525MW of power purchase agreements for wind generation
- Assist cooperatives with the development or procurement of utility scale solar
  - Services range from general consultation to full cycle from initial site assessment through permitting, EPC contracting and commercial operations
  - 15MW operational
  - 80MW under development
- Developed a community solar program for rural electric cooperatives
  - Full cycle development of small scale solar projects which cooperatives create a community solar service offering to end consumers
  - Creation of financing structure to maximize federal incentives
  - Completed over 30 projects since program launch in the fall of 2013
- Analyze opportunities in hydro-electric projects, land fill gas, bio-digesters, and battery storage
- Work with cooperative finance staff, Investment Banking, legal and accounting counsel to determine the optimal structures to allow for ownership of projects by both taxable and non-taxable cooperatives while maximizing the use of Federal incentives

ACES Power Marketing – Indianapolis, Indiana **4/01-4/09**
Director of Member Client Services, **10/08-4/09**

Responsible for managing delivery of power marketing and risk management services to electric utility owners and other clients.

- Act as key customer interface and focal point for a regional set of utility and other energy company clients.
- Responsible for client relationship management at several levels of customer organizations.
- Coordinate the interface between the customers' needs and APM front, middle and back office service providers.
- Gather and convey market intelligence and risk management advice to clients.
- Work to expand service opportunities and extend relationships with existing clients.
- Provide assistance and direction in the development of new service and energy commodity contracts affecting clients.
- Coordinate the activities associated with serving new customers.

Director of Structuring, **4/05-10/08**
Manager of Structuring, **10/02-4/05**

Responsible for a department that develops commodity hedging strategies and asset evaluations for rural and municipal utilities as well as Independent Power Producers.

- Work with Internal Risk Oversight and Board Risk Oversight committees by providing risk quantification, reporting and strategy development.
- Supervise five Quantitative Analysts who develop hedging strategies, provide market research, and perform product valuations.

- Determine the value of generation assets in various regions of the country.
- Collaborate with Trading to define hedging strategies.
- Work with Investment Banks and Energy Marketers to structure derivatives
- Present final recommendations to senior management.
- Implemented new modeling software
- Developed the company's Financial Transmission Rights analytical processes.

Quantitative Analyst **4/01-9/02**
Provide financial analysis for companies involved in the wholesale power markets allowing them to mitigate millions of dollars of risk in variable revenues and costs.

- Created Monte Carlo based asset and liability models for utility companies that assess the potential variable costs due to the uncertainty of customer demand and volatility in commodities such as electricity and natural gas
- Developed hedging strategies.
- Value unit contingent generation, insurance, demand side management programs and "all requirements" energy and capacity products using proprietary pricing models.
- Assist in assessing long-term asset development or contractual purchases.

Quilogy (formerly Solutech, Inc.) - Indianapolis, Indiana **8/98-3/01**
General Manager - Relocated to Indianapolis to establish and manage the profitability and growth of a full service e-business solution provider.

- Managed the sales of Technical, Education, Strategy, Creative and Hosting solutions
  - Assessed the Indianapolis market to successfully target customers
  - Managed the sales pipeline of the business development staff
  - Established relationships with customers
- Recruited and motivated a staff of twenty
  - Administered project life cycle from initial planning through installation, training and operations
  - Developed a formal review process for consultants
  - Facilitated weekly sales meetings, monthly office meetings and internal training sessions
- Managed training facility for IT professionals
  - Established course schedules and monitored trainers
  - Created and delivered custom courses on the use of Microsoft products
- Developed spreadsheet models to project revenues, expenses and capital budget needs

Quilogy (formerly Solutech, Inc.)– St. Louis, Missouri **4/97-7/98**
Consultant –Responsible for the successful implementation of technology solutions and provided the highest quality vendor certified education courses.

- Developed database and Internet applications for companies of various sizes and industries
  Financial related solutions:
  - Built a data warehouse for a worldwide manufacturer to track and compare competitor pricing
  - Built a database to allow county governments to submit their budgets over the Internet to the state government
  - Built a database application to support a business unit that sold analytical services to doctors by analyzing their patients' medical claims
- Trained technology professionals in Microsoft SQL Server

Boatmen's Bancshares, Inc. - St. Louis, Missouri **4/93-4/97**
Assistant Vice President Portfolio Management
Responsible for executing the corporate investment strategy for the bank holding company's $12 billion fixed income portfolio.

- Responsible for developing the models to run the annual investment income budget for the entire bank portfolio based on various interest rate and prepayment assumptions
- Managed the $1.7 billion U.S. Treasury portfolio
- Made purchase recommendations on the $2.5 billion Agency and $1 billion Whole Loan CMO portfolio
- Developed an MIS reporting process which provided monthly analysis of investment performance for the entire bank portfolio (Treasuries, Agencies, Municipals, Mortgage Backed Securities and Asset Backed Securities)
- Reverse engineered Whole Loan CMO's
- Provided Duration, Convexity and OAS analysis to Portfolio Managers
- Supplied information for regulatory compliance and reporting to the boards of directors to over 50 affiliates and corporate management
- Provided monthly income projections for the asset side of gap analysis
- Worked on a team to convert data to a new investment portfolio accounting system

Boatmen's First National Bank of St. Louis **7/92-4/93**
Institutional Investment Representative
Responsible for the sale of mortgage backed, municipal, government agency and treasury securities.

- Targeted commercial banks, investment advisors and bond funds
- Supported Sr. Representatives and their accounts

Education:

Indiana University – Kelley School of Business
Masters of Business Administration - 2004

Chartered Financial Analyst – CFA®

University of Tulsa
Graduated Cum Laude with a B.S.B.A. – 1992. Majors: Finance & Economics

Other:

Proficient in MS Excel, @Risk, MS SQL Server, MS Access, MS Excel, MS Word, MS Project, Visual Basic for Applications, SAS
Quilogy Leadership Academy run by the University of Missouri St. Louis
Franklin Covey's "Helping Clients Succeed" Sales Training

EXHIBIT TB-2

NRCO REPORT

(REDACTED)

NRCO℠
NATIONAL RENEWABLES COOPERATIVE ORGANIZATION

Executive Summary

East Kentucky Power Cooperative (EKPC) engaged the National Renewables Cooperative Organization (NRCO) to assist with soliciting bids for the development of a photovoltaic solar system on one of two possible sites owned by EKPC. A request for proposals (RFP) was issued on September 18th, 2015 for a project on either site for up to 10 MW. In addition, details regarding construction timeline, equipment selection and project economics were gathered. From initial bids, a recommended shortlist was cultivated and presented to EKPC in mid-November. EKPC approved the shortlisted candidates and interviews were conducted at EKPC Headquarters in early to mid-December. The interviews gave the shortlisted candidates the opportunity to seek additional information about the site, the CPCN process and discuss EKPC's renewable energy goals. After interviews, shortlisted bidders were asked to finalize pricing for an 8 MW facility at EKPC HQ in addition to supplying a bid for a site that maximized the size of the solar system given the acreage available. After taking into consideration bidder backgrounds, experience, project economics, and bidder responsiveness, **NRCO is recommending Lend Lease for this project and is confident in their ability to deliver a successful solar implementation for EKPC at the most attractive economics.**

What follows is a chronology of the process that was undertaken to ultimately select Lend Lease as the recommended winner of the RFP.

Background

EKPC, a member owner of NRCO, formally engaged NRCO in early to mid-September of 2015 to assist with RFP issuance and screening of potential candidates to develop a solar array on sites owned by EKPC. The scope of that agreement covers:

1) RFP issuance
2) Fielding bidder inquiries
3) Proposal evaluation
    a. Economic review
    b. Technical review if needed
    c. Project Schedule review
4) Build/Buy Analysis
5) Assistance with contract negotiation (e.g., Engineering, Procurement and Construction)

Early in the process, EKPC expressed an interest in ultimately owning the asset, either through a develop/build relationship or a purchase power agreement with buyout options. A buyout option would allow EKPC to pay a lump sum to effectively end the PPA and take ownership of the solar array at a predefined point in time.

With that in mind, NRCO drafted a RFP that requested proposals for a "develop/build" arrangement for up to 10MWdc of solar on one of two sites owned by EKPC, as well as offers for a power purchase agreement (PPA). At

the time of the RFP, projects with a Commercial Operations Date (COD) of 12/31/2016 or earlier were preferred, due to the pending expiration of the ITC although provisions for a later COD were allowed.

The RFP was issued on September 18th, 2015 with responses due back October 16th, 2015.

RFP Responses

The RFP was issued to 29 different bidders and nine responses were received. This response rate was in line with expectations since the RFP was issued late in 2015, with the looming 2016 expiration of tax incentives and developer pipelines possibly fully subscribed for 2016. Additionally, an uncertain timeline for approval of the CPCN made commitment to a 2016 commercial operations date challenging for some potential bidders. EKPC received a diverse number of pricing options and projects from which to select. In summary, nine bidders supplied 6 develop/build offers and 6 PPA offers. PPAs offered ranged in price from [redacted] on a levelized basis with most offers being between [redacted] Develop/build offers ranged from [redacted] per Watt DC. Build to Transfer bids generally reflect the cost to get a solar array constructed with the general assumption that EKPC would handle interconnection to the distribution system. A summary of the develop/build offers is shown in Figure 1 below.

Bidder	Site	Offer	MWdc	MWac	$	$/Wattdc	NCF
[redacted]							

Bidder	Site	Offer	MWdc	MWac	$	$/Wattdc	NCF
[redacted]							

[redacted]

In addition to Develop/Transfer bids listed above, several bidders supplied EKPC with PPA pricing.

Bidder	Site	Offer	MWdc	MWac	$/MWh	Price Escalator	Levelized Price
[redacted]							

Generally speaking the PPA offers were conforming with respect to the requests of the RFP. The RFP required a PPA tenor of at least 10 years and not more than 25 years. The bids reflected in the chart above reflect PPAs between 20 and 25 years. Bidding behavior can sometimes be indicative of bidder preference on ownership structure. Notably, [redacted] only responded with PPA offers. As EKPC's primary focus was on asset ownership, competitive PPA options were considered in the final shortlist recommendation but not exclusively. That is to say, the ideal shortlisted candidate gave EKPC a choice of develop/build and PPA, but a higher than expected PPA price would not preclude that candidate from shortlist selection assuming the build/develop bid was competitive.

Summary of Responses

[redacted]

A brief discussion of each proposed system and technology follows. The comments that follow only serve as a high level overview of the technologies proposed as opposed to a detailed engineering review. Should a detailed engineering review be desired, NRCO will utilize our engineering consultant for such a review.

Solar Panel Technology

Mono-Crystalline

Mono-Crystalline panels, as those proposed by SunEdison, rely on single crystal substrate. The use of a more refined silicon structure results in higher panel efficiencies at the expense of increased cost. Generally, gains in efficiencies are in the 10%-20% range, while production costs for mono-crystalline panels are about 20% higher. The higher efficiency of mono-crystalline panels makes them more suitable for space constrained areas, where the increased energy production can offset the increase in equipment cost. In addition, mono-crystalline panels will perform slightly better at higher temperatures than polycrystalline.

Polycrystalline

Polycrystalline, the technology of choice from most bidders on this RFP, uses a multiple crystal substrate in the solar cell. This reduces manufacturing costs, but lowers panel efficiencies. The low cost/lower efficiency nature of Polycrystalline makes them suitable for larger scale deployments where economies of scale can be achieved. Both mono-crystalline and polycrystalline are mature solar technologies, with polycrystalline being a relative "newcomer" to the market.

Thin Film

Thin film panels, such as the panels proposed by [redacted] are typically more temperature resistant than silicon panels and perform better under partially shaded conditions, however they are generally less efficient. With the lower efficiency comes higher installed costs as thin film typically uses more space to achieve the same power output as traditional silicon panel solutions. However, FirstSolar, an industry leader in thin film technologies, advertises higher efficiencies than traditional crystalline panels, particularly in hot climates. However, for EKPC, as they are a winter peaking system, this is of less concern than it would be for a utility locating in the southwest or southeast.

NRCO feels that crystalline technologies, while having become commoditized, are likely a more stable technology than current thin film offerings in the marketplace. In addition, crystalline technology has a broader manufacturing capacity with roughly 92% of expected 2016 PV module supply being crystalline. This broad manufacturing base could serve to reduce risk in equipment deliveries among those proposing crystalline panels.

However, all three technologies proposed by the RFP respondents were acceptable technologies.

Inverter Configurations

Central

In an array that uses central inverters, the DC output from each string of solar panels is connected to a combiner box, the power is then run from the combiner box to a single inverter and converted to AC power. The advantages of using central inverters is that they generally keep capital costs down and simplify the system. From an energy production standpoint, however, using central inverters can mean that equipment failure can lead to a system wide loss of production depending on the number of inverters used in the design.

String

In an array that uses string inverters, each string of solar panels has an inverter connected to it which then converts the panel's DC output to AC output. With the increased quantity of equipment comes increased installation costs. However, string inverters provide some advantages over central inverter layouts. The first is increased redundancy. Should an inverter fail, less of the array will be impacted than if central inverters were used. The second advantage is that string inverters allow for more granular data observation. This aides in the

monitoring of the system and enhances diagnostic ability as each string of panels can be monitored on an individual basis, versus a central inverter that will only display aggregated data. NRCO feels that inverter configuration is ultimately EKPC's choice as each layout has advantages, with central inverters being the less expensive option and string inverters offering potential enhancements through enhanced system redundancy, which could ultimately lead to better energy production or lower maintenance costs.

Long Term Maintenance

As part of the RFP process, it was asked of vendors to consider possible Operations and Maintenance arrangements for the array. Several parties quoted O&M as inclusive of their PPA price or suggested the O&M agreement would be negotiated as part of a broader EPC agreement if selected for the project.

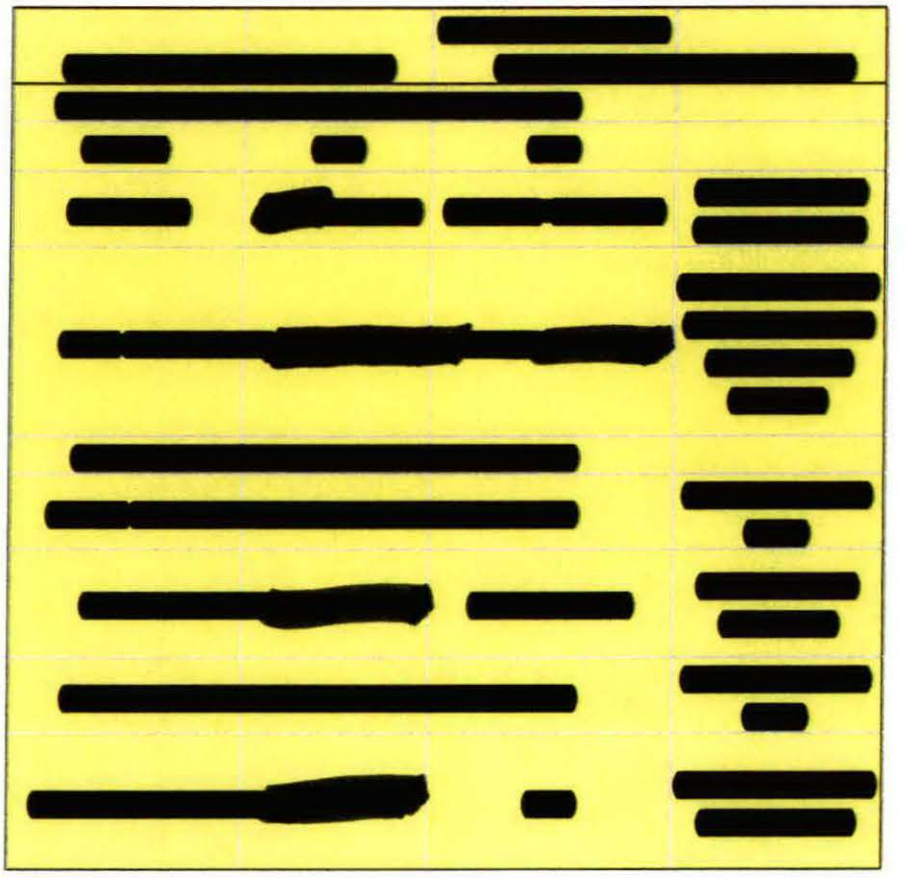


Figure 4 – Indicative O&M Quotes

Annual maintenance costs would be expected to range between [redacted] per year for a basic scope (inspection, panel cleaning, etc). In addition, more detailed offers outlined a replacement schedule or separate maintenance plan for inverters. Lend Lease, for example, has an inverter reserve of [redacted] per year that begins

in year 6 and runs for 10 years so that inverters can be replaced as soon as year 11. This would self-insure against inverter loss for the first year outside their proposed inverter warranty schedule. NRCO has discounted those expected costs to a 2016 present value of [redacted] over the project life in order to compare to the [redacted] quote. [redacted] quoted O&M that was comparable to Lend Lease, but only offered O&M terms out to 5 years, at which point EKPC would need to renegotiate with a new supplier or with [redacted] As O&M is frequently negotiated separately from an EPC arrangement, NRCO did not emphasize what are ultimately indicative quotes for long term O&M with as much importance as other factors.

Site Selection

EKPC offered two sites to bidders in the RFP. The first and preferred site was one of two plots located at JK Smith Station, located outside Trapp, Kentucky. This site had the advantage of being relatively flat, without the perceived need for as much civil engineering work for solar, and provided convenient interconnection options. The site map for the JK Smith site is shown below.

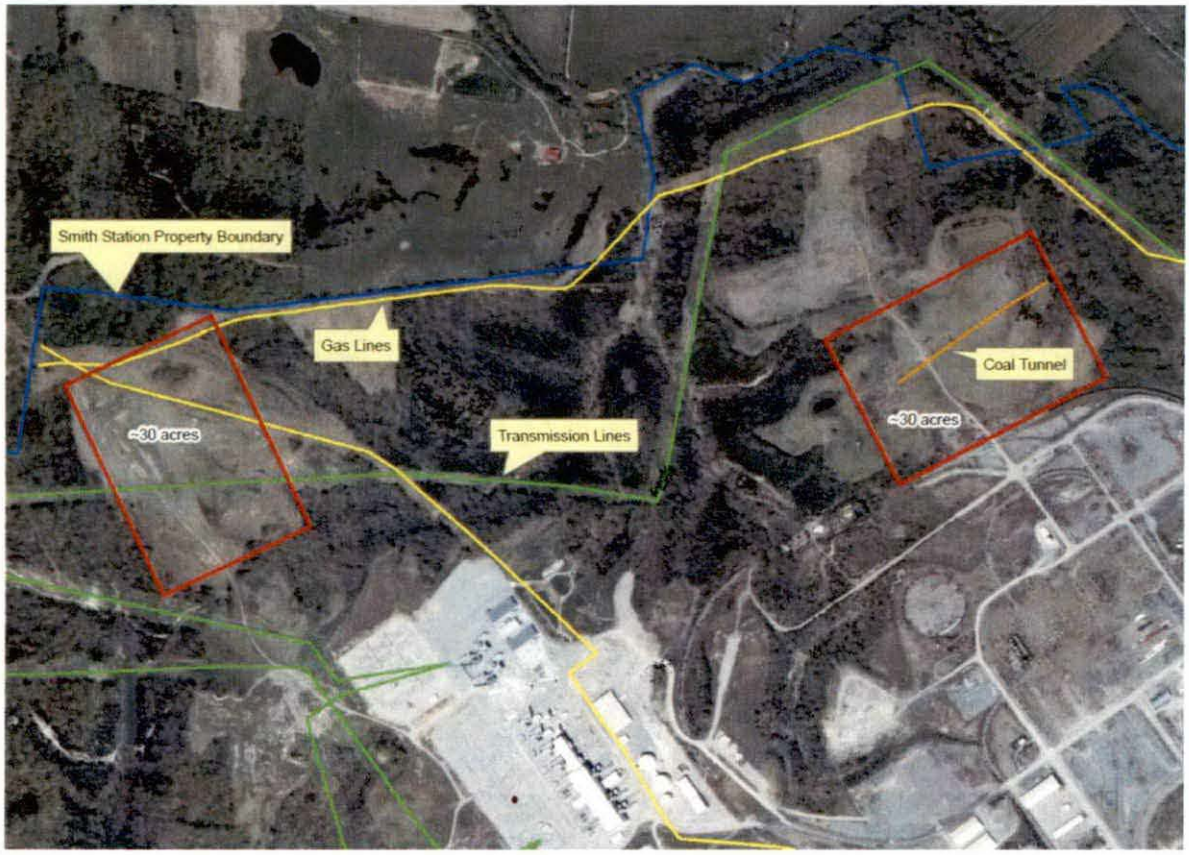


Figure 5 – Site 1, JK Smith

The most notable challenge to the use of this site is its non-contiguous nature, which had the potential to increase development costs. The second site offered was a roughly 70 acre parcel of land located on EKPC headquarters in Winchester, Kentucky. This site was originally believed to be a less ideal site due to its somewhat rolling nature, less convenient interconnection options, and some uncertainty about the design impacts of a natural gas pipeline running through a portion of the site.

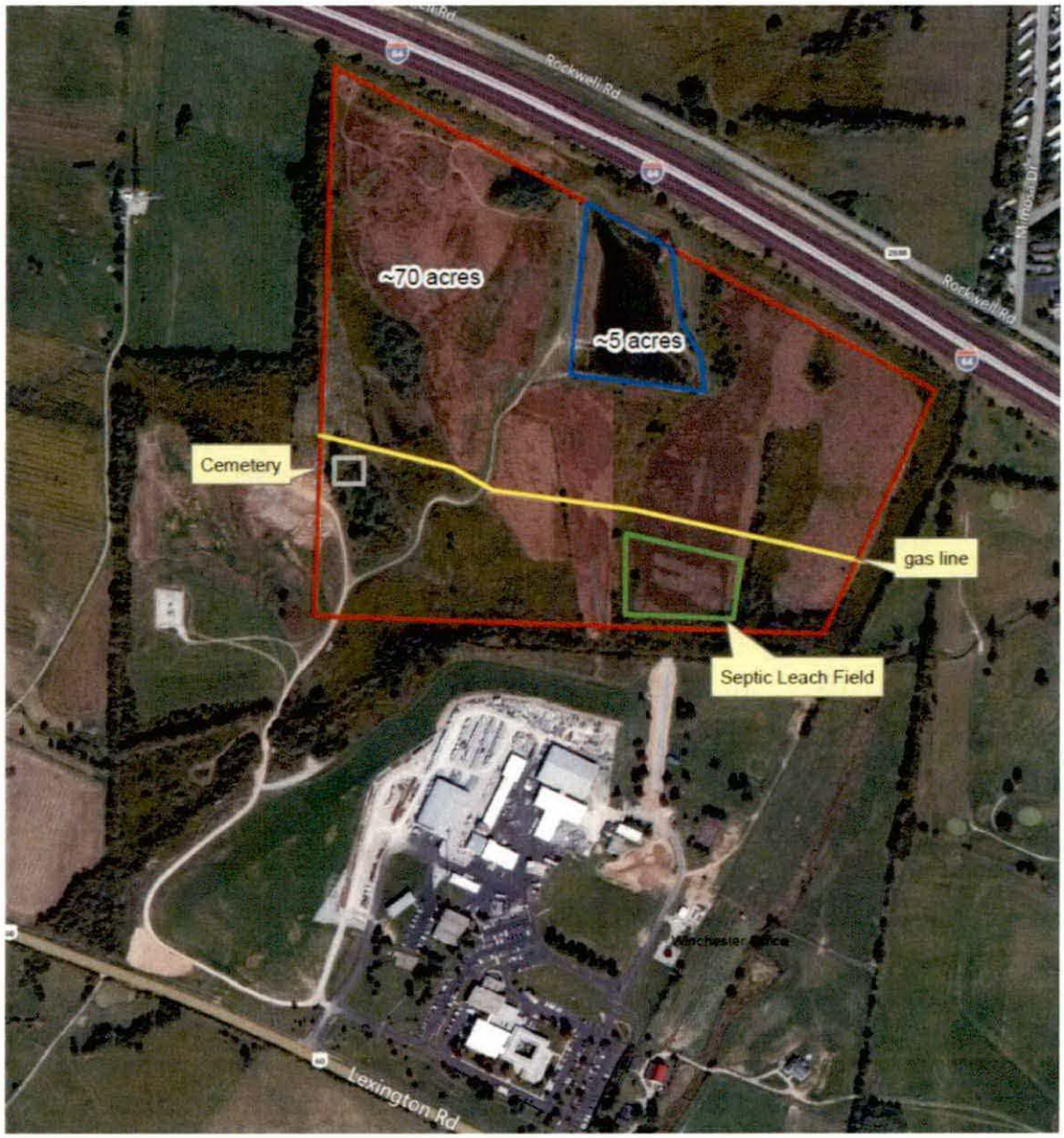


Figure 6 – Site 1, EKPC Headquarters

After reviewing bids, a common theme of those bids was a general preference for developing the HQ site for its continuous nature and, perhaps to a certain extent the public relations value in the second sites proximity to I-64. Noticeably, bids that used both sites chose the HQ site as the primary location and the JK Smith site as a secondary location. NRCO, in discussions with EKPC staff, recommended focusing development efforts on the HQ site, concurring with the "market" for offers that the HQ site was the most attractive site from both getting a bulk of the desired capacity and from a public relations standpoint.

Subsequent to those conversations, EKPC's board approved an approximately 8MW project on the HQ site. With that focus in mind, NRCO proposed placing certain developers on the shortlist.

Recommended Shortlist

To develop the shortlist, NRCO was primarily concerned with three factors. Those were: price (both EPC and PPA), the ability of the bidder to assist with the CPCN process, and experience with developing and deploying solar projects. With regard to price, Lend Lease was the clear winner for supplying a develop/build bid that was [redacted] The next closest bid was supplied by [redacted]

Bidder	Develop/Build Price	PPA [redacted]
[redacted]		

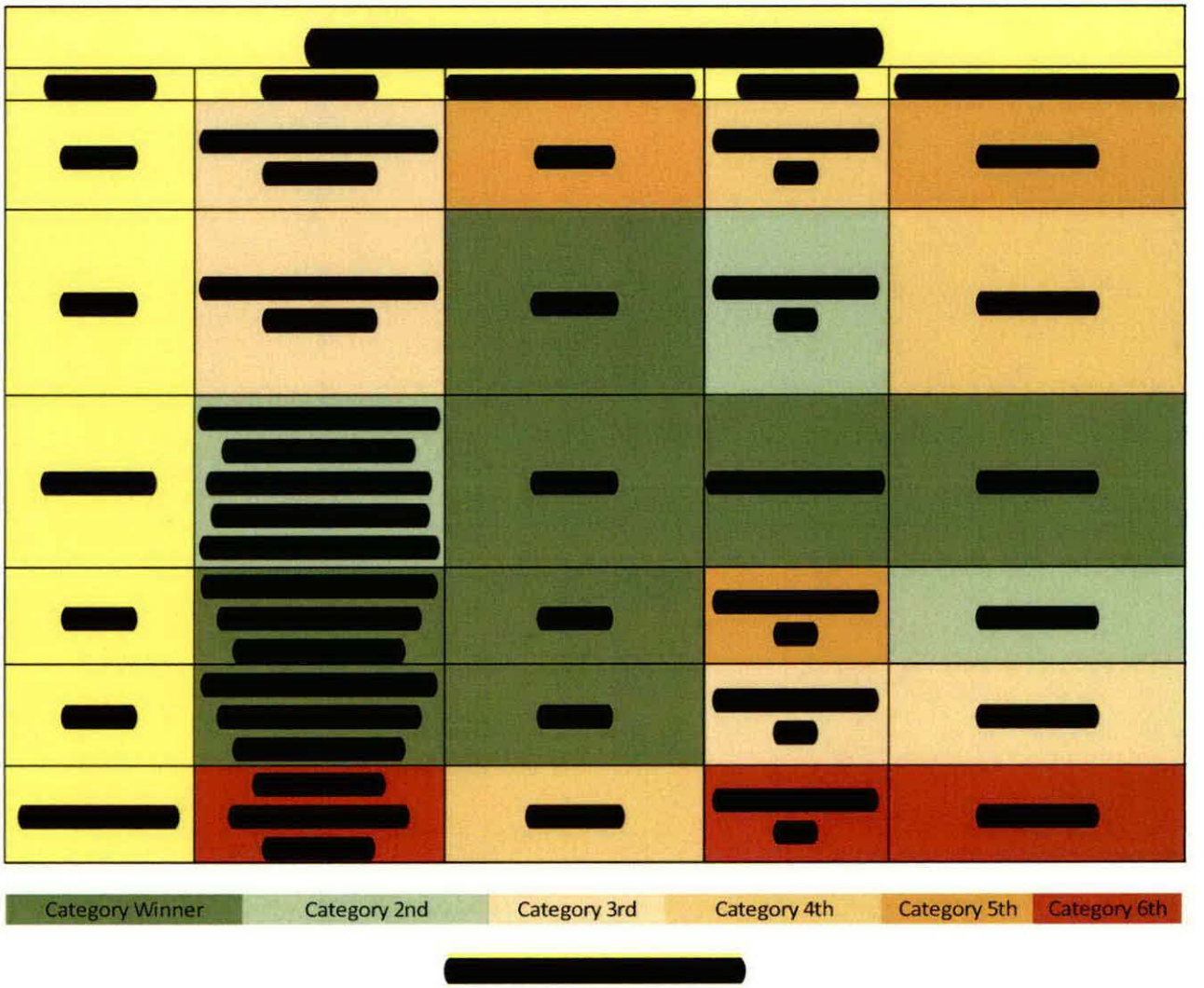
[redacted]

The second factor in determining shortlist candidates was how well the bidder's showed a desire to assist EKPC through the CPCN process. Through follow up questions to candidates and in detailed bid reviews, it appeared the bidders best equipped to assist with the CPCN process were Lend Lease, [redacted] Importantly these candidates offered CPCN assistance as a value added service, rather than charging a consulting fee until project agreements could be signed. [redacted]

Finally, overall experience in solar installations was considered. In terms of project volume the top three bidders were [redacted] Lend Lease, [redacted]

Lend Lease is a large real estate and infrastructure developer who has been developing solar in the United States for a little more than a decade. Their first exposure to solar was doing ground and rooftop solar for the Department of Defense. More recently, Lend Lease was chosen as the EPC partner on 201MW of solar in Texas and 65 MW of solar in Hawaii, partnering with SunEdison. This project is expected to be operational at the end of this year. A global company with a large balance sheet and the most competitive bid of all the respondents, Lend Lease was also recommended for shortlist inclusion.

[redacted]



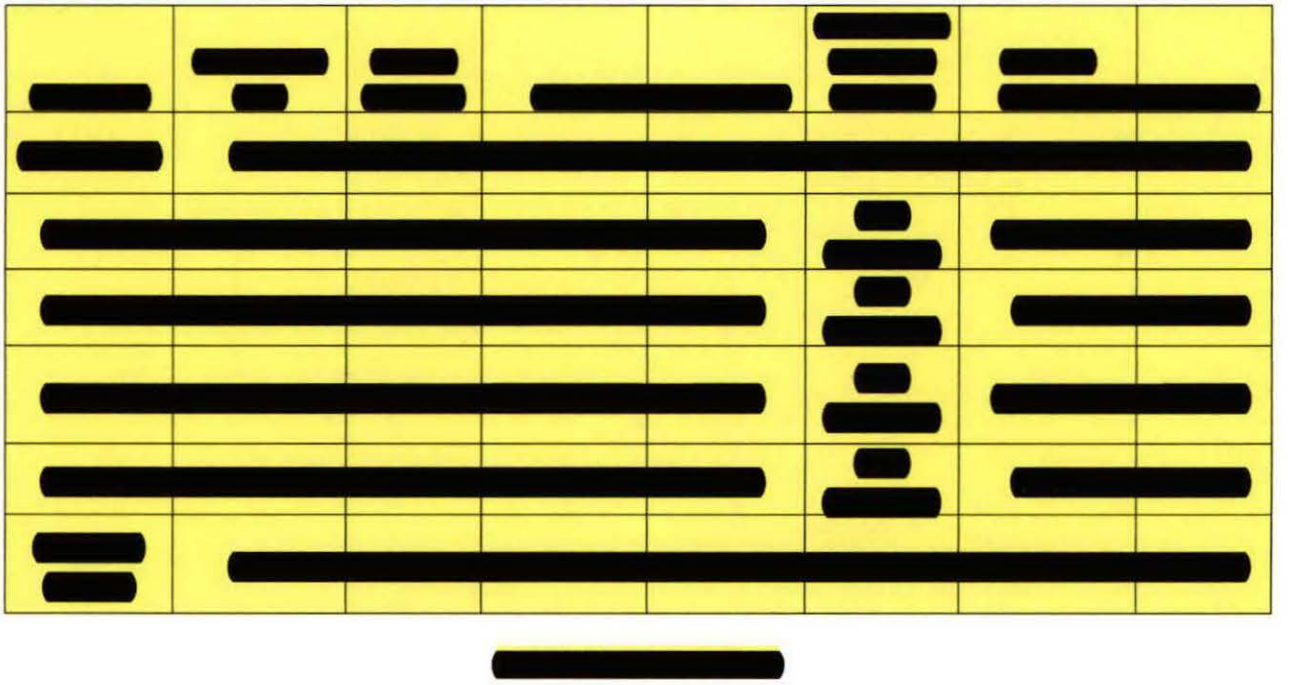
Shortlist Interviews

Upon presentation of the shortlist to EKPC, NRCO scheduled interviews with each of the shortlisted candidates between December 9th and December 18th. Each shortlisted candidate met with EKPC and NRCO staff, reviewed the details of their bid, viewed the final site in person, and participated in a Q&A session. During the interviews, EKPC staff identified slight modifications to the site, accounting for revised boundaries of wetlands, a septic leach field, and jurisdictional streams. Primary requests of EKPC to the bidders were to revise the layout based on the new information and also illustrate and price a maximized the solar capacity given the site's total acreage. NRCO requests included adding a buyout option to PPA offers and showing, where relevant, a configuration using string inverters as opposed to central inverters. Bidders were asked to supply this information as quickly as possible due to EKPC's desire to submit a CPCN package in January. [redacted] who had the benefit of an extra week of response

time due to being the first interview scheduled submitted incomplete information and requests for updated pricing, at the time of writing were not received. [redacted] replied with follow up items quickly, but was missing some elements of pricing requests. [redacted] at the time of writing, was still developing their response and was not expected to have it until Wednesday, January 20th. While [redacted] assembled an impressive team and gave an excellent interview, NRCO felt that their speed in assembling a response indicated that the team was perhaps too spread out across development disciplines to work coherently together.

Lend Lease was the only bidder who responded quickly and completely to EKPC and NRCO requests despite being one of the latest interviews scheduled. NRCO was impressed by Lend Lease's responsiveness and communication.

Below is a summary of the rebids as part of the interview process.



Recommendation

In formulating a recommendation for an EPC vendor to EKPC, several variables were considered:

1) Pricing – Was pricing competitive and were options supplied for both Develop/Build and PPAs? Was a buyout option supplied for a PPA option?
2) Financial backing – Is the bidder a large corporation with a large balance sheet or are they smaller and do they rely more on lines of credit to complete projects?
3) Responsiveness – How responsive were they in supplying information and answering questions?
4) Ability to complete projects – How many utility-scale solar installations have they successfully completed?
5) The willingness and ability to assist with the CPCN process – how earnest were they with volunteering to work through the CPCN process prior to being awarded a definitive contract?

With respect to pricing, Lend Lease has been the leader from the initial response. Not only was their opening bid for develop/build the most competitive, their PPA offer was competitive with other offers of the same scope. Finally, Lend Lease, in responding to follow up requests, suppled a quote for maximizing the site that was approximately [redacted] Watt DC for a [redacted] MWdc fixed tilt array making Lend Lease a clear winner.

[redacted]

This is in contrast to Lend Lease, who has made a strategic decision to make sustainability a key part of their business strategy, incorporating it into their Corporate Governance.

The remaining two bidders, [redacted] are closely held companies and as a result have somewhat less transparent financials.

With a recent increase in the Federal Funds rate and commodity prices generally in decline, NRCO believes that given the project timeline it is imperative that EKPC select a bidder who has very robust financial backing. For this category, [redacted] is the leader although Lend Lease is a close second.

Responsiveness has been key during this process and most bidders were equally responsive with fielding questions. However, two bidders were noticeable laggards in following up with post interview requests. These were [redacted] and [redacted] initially responded very quickly, and as they were the earliest interview, this would be expected. However the response was incomplete as pricing for the revised sites was not given and still forthcoming at the time of writing. [redacted] who was the last interview before entering the holiday

season, had assembled a very broad team of vendors and consultants. Their delay given this breadth of business relationships is somewhat understandable but speaks to possible risks to their being able to successfully manage a large team and execute the project. Both [redacted] were responsive, however [redacted] neglected to supply buyout options for their PPA quotes. Only Lend Lease, one of the last interviews, responded quickly and thoroughly during the post interview process.

Three of the four shortlisted candidates have more or less equal experience in successfully developing solar assets. The only newcomer to solar was [redacted] who is seeking to diversify business lines by entering the renewable energy business to supplement their existing lines of business. This is being accomplished via a joint venture between [redacted] and at the time of writing, [redacted] only has [redacted] of completed projects to claim. The remaining three are all capable installers with depth of experience.

For NRCO's final topic of consideration, the bidder's willingness to work with EKPC during their CPCN process was evaluated. From early on in the RFP process, it was communicated to bidders that payments for notice to proceed and procurement would not be able to exchange hands until EKPC had CPCN approval. Given the tight timeline for a targeted 2016 COD, NRCO anticipated that some bidders would request a consulting arrangement until an EPC contact could be formalized. While some bidders did propose a consulting arrangement, the shortlisted bidders ultimately saw this as a value added proposition, which factored into their ultimate selection. [redacted] however, stood out as perhaps the most qualified to support EKPC with the CPCN process. [redacted] assembled a deep development team and paid particular attention to retaining a consultant who had previous experience with developing generation assets in Kentucky and going through Kentucky's CPCN process in addition to the permitting process.

After evaluating each of the shortlisted candidates under these criteria, Lend Lease stood out as the developer most capable of successfully implementing a solar deployment for EKPC. They presented a clear and focused proposal, were nimble and responsive with follow up questions, had the most competitive economics, and are supported by a large balance sheet. In addition, in an effort to add additional value, they have offered to be a tax equity investor in the project should that ultimately meet EKPC's needs and provide an economically feasible solution. A summary table of evaluated criteria is shown in Figure 10 below.

The next decision for EKPC is to either into a develop/build contract or enter into PPA negotiations. NRCO will collaborate with EKPC staff in evaluating the economics of each potential decision and the financing options available. This information will be supplied in a separate report.

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

THE APPLICATION OF EAST KENTUCKY POWER COOPERATIVE, INC. FOR ISSURANCE OF A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY, APPROVAL OF (CERTAIN) ASSUMPTION OF EVIDENCES OF INDEBTEDNESS AND ESTABLISHMENT OF A COMMUNITY SOLAR TARIFF	))))))	Case No. 2016-_____

DIRECT TESTIMONY OF JAMES READ
ON BEHALF OF EAST KENTUCKY POWER COOPERATIVE, INC.

Filed: July 21, 2016

I. Introduction

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

A. My name is James Read and I am a Principal with The Brattle Group ("Brattle"). My office is located at 44 Brattle Street in Cambridge, Massachusetts 02138.

Q. PLEASE SUMMARIZE YOUR EDUCATION AND PROFESSIONAL EXPERIENCE.

A. I have been consulting in the areas of energy and financial economics for over thirty years. My consulting practice has focused on the electric power and natural gas industries, including the valuation of energy resources and contracts, investment decision-making, portfolio risk management, market analysis and modeling, energy trading, and supply procurement. I have worked for many years with the Electric Power Research Institute to apply modern financial economics to decision-making in the electric power industry, to develop tools and methods for valuation and risk management, and to teach principles and methods of value and risk to industry participants. I hold a Bachelor's degree in economics from Princeton University and a Master's degree in finance from the Sloan School of Management at the Massachusetts Institute of Technology. My education and professional experience is more fully described in my *curriculum vitae*, a copy of which is attached to this testimony as Exhibit JR-1.

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

A. The purpose of my testimony is to compare and contrast the economics of the community solar tariff proposed by East Kentucky Power Cooperative, Inc.

("EKPC") with the principal alternative available to EKPC residential customers: the purchase and installation of a residential-scale rooftop solar photovoltaic (PV) power system.

Q. ARE YOU SPONSORING ANY EXHIBITS?

A. Yes. My *curriculum vitae* is attached hereto as Exhibit JR-1 and a sensitivity analysis summary is attached as Exhibit JR-2.

Q. HAVE YOU PREVIOUSLY OFFERED TESTIMONY BEFORE THIS COMMISSION AND/OR OTHER REGULATORY BODIES?

A. Yes. I have offered testimony before the Federal Energy Regulatory Commission and the Public Service Commission of the State of New York. I also submitted testimony on behalf of EKPC in Case No. 2013-00259 and Case No. 2015-00267.[1]

II. Background

Q. IN WHAT RESPECTS ARE THE ACQUISITION OF A RESIDENTIAL ROOFTOP SOLAR PV SYSTEM AND PARTICIPATION IN THE COMMUNITY SOLAR TARIFF THAT EKPC HAS PROPOSED SIMILAR?

A. Purchasing a residential PV system and participating in the proposed community solar program are two ways residential customers can participate in the production of solar electricity. Both would allow participants who are so inclined to derive

[1] *In the Matter of the Application of East Kentucky Power Cooperative, Inc. for a Certificate of Public Convenience and Necessity for Alteration of Certain Equipment at the Cooper Station and Approval of a Compliance Plan Amendment for Environmental Surcharge Cost Recovery*, Case No. 2013-00259 (filed Aug. 21, 2013); *In the Matter of the Application of East Kentucky Power Cooperative, Inc. for Approval of the Acquisition of Existing Combustion Turbine Facilities from Bluegrass Generation Company, LLC at the Bluegrass Generating Station in LaGrange, Oldham County, Kentucky and for Approval for the Assumption of certain Evidences of Indebtedness*, Case No. 2015-00267 (filed July 24, 2015).

satisfaction from relying less, directly or indirectly, on electric energy produced using fossil fuels.

Q. HOW DOES A RESIDENTIAL SOLAR PV SYSTEM DIFFER FROM A COMMUNITY SOLAR PV SYSTEM OF THE SORT THAT EKPC PROPOSES TO BUILD?

A. They differ in several ways. First, as the term suggests, a residential PV system would typically be installed on the roof of a house owned by a residential customer. In contrast, the community-scale solar PV equipment that EKPC proposes to acquire will be installed on EKPC property—specifically, at its headquarters in Winchester, Kentucky. In the first case, a homeowner would select, purchase, install, own, and maintain a residential-scale solar PV system, typically engaging a vendor to perform the necessary installation and/or maintenance. All of the direct costs of the PV system (the costs to purchase, install, and maintain) would be the responsibility of the homeowner, and all of the direct benefits associated with the production of electricity would likewise flow to the homeowner. Under the community solar tariff, in contrast, EKPC will select, purchase, install, own, operate, and maintain a community-scale solar PV facility. Participants in the solar PV tariff will pay for a share of the associated costs and realize a share of the direct benefits forthcoming from the community solar PV.

Residential-scale and community-scale solar PV systems also differ in terms of production capacity and other physical characteristics. Residential PV systems are typically in the range of 2 to 10 kW of generation capacity, whereas community-scale

PV systems are generally in the range of hundreds of kW to 10 MW or more of generation capacity. Residential PV systems almost exclusively employ fixed-tilt technology—their orientation to the sky remains fixed—whereas community-scale PV systems can employ fixed-tilt, single-axis tracking, dual-axis tracking, or a combination of the above. Relatedly, the potential productivity of rooftop solar systems is typically constrained by the location and orientation of existing roofs. Objects such as adjacent buildings and trees can obstruct sunlight, with the result that actual PV energy output will be below potential. In contrast, community scale systems can generally be located to avoid obstacles and optimize orientation to the sun. Finally, the cost per kilowatt of installed capacity is generally lower for community-scale PV systems than it is for residential-scale systems.

Yet another difference is the form in which the participants will expect to realize monetary returns on solar PV investments. Residential customers in the EKPC service territory are eligible to participate in a net energy metering ("net metering" or NEM) program. Under net metering, participating customers receive an offset on their utility bills for the electric energy their PV systems produce. Generally speaking, this means that for every kilowatt-hour (kWh) produced, participating customers will avoid the volumetric component of the applicable tariff rate—the part that changes with their energy usage. Residential customers are also entitled to the renewable energy credits for the energy their rooftop PV systems generate. In contrast, the EKPC solar tariff has been designed so that participants will receive credits on their bills based on their share of the wholesale market value of the energy, capacity, and renewable energy credits produced by the community PV system.

Q. ARE THERE OTHER DIFFERENCES IN THE PROSPECTIVE RETURNS TO AN INVESTMENT IN RESIDENTIAL PV VERSUS PARTICIPATION IN THE PROPOSED EKPC COMMUNITY SOLAR PROGRAM?

A. Yes. As I said, a homeowner who purchases a rooftop PV system is responsible for maintaining the system. The homeowner should anticipate periodic expenditures for system maintenance and eventual replacement of the inverter—the component of a solar PV system that converts the direct current (DC) electricity produced by solar panels into alternating current (AC) electricity. In contrast, EKPC will maintain the community solar PV system and deduct associated maintenance costs from bill credits for participating customers. Also, the homeowner will have permanent rights to the PV system and to the electricity it produces. In contrast, the rights of participants in EKPC's solar tariff program will expire at the end of the 25-year license term. Finally, a homeowner who decides to purchase a residential PV system may at some point in the future need to accommodate the PV system in the course of undertaking maintenance of and/or renovations to the house (for example, replacement of the roof) and will eventually have to dispose of the solar PV equipment.

Q. ASIDE FROM THE DIFFERENCES IN OWNERSHIP, COSTS, PERFORMANCE, AND FORM OF THE RETURNS, ARE THERE ANY OTHER DIFFERENCES THE COMMISSION SHOULD BE MADE AWARE OF?

A. Yes. The creation of a community solar tariff will make it possible for utility customers who do not own a house with a suitable roof or who do not own a house at all to participate in solar PV. Someone who rents a house or an apartment, for example, could still participate in the production of solar energy.

Q. WHAT WOULD MAKE A ROOF UNSUITABLE FOR A RESIDENTIAL SOLAR PV SYSTEM?

A. In some cases the roofs on existing houses have an unfavorable orientation to the sun. Rooftop PV panels in such cases would not be able to capture a sufficient amount of sunlight to make an investment in solar PV worthwhile. In other cases, the roof may be in a location in which sunlight is obstructed by adjacent buildings, trees, or other objects. Finally, roofing material may be too old or the roof structure too weak to accommodate a solar installation without additional, costly modifications to the roof before installation of a solar rooftop system.

Q. WHY DO YOU THINK THE PROPOSED EKPC COMMUNITY SOLAR TARIFF IS LIKELY TO BE APPEALING TO MANY RESIDENTIAL CUSTOMERS WHO WISH TO PARTICIPATE IN SOLAR ENERGY PRODUCTION?

A. My conclusion is based on a comparison of the economics of the two alternatives—the economics from a residential customer's perspective. I have in mind a hypothetical residential customer who has decided to participate in solar electric generation one way or the other—that is, has decided either to purchase a rooftop solar PV system or to license a share of the EKPC community solar project under the

proposed tariff—and is trying to decide which option to choose. In making this comparison I am assuming of course that it would be feasible for this hypothetical customer to install a rooftop solar PV system. As I explained earlier, some prospective community solar participants do not own a house and others own a house with a roof that is not suitable for installation of solar PV, so in those cases residential PV would not be an option. I am also assuming that the purchaser of a rooftop PV system has a roof that is well oriented for purposes of operating a solar PV system.

III. Analysis

Q. WHAT ARE THE RELEVANT ECONOMICS FROM THE RESIDENTIAL CUSTOMER'S PERSPECTIVE?

A. I assume for purposes of my analysis that a hypothetical customer for the community solar tariff takes into consideration the license fee specified under the tariff, the costs of acquiring, installing and maintaining a rooftop solar PV system, the electricity production of the community solar PV and rooftop systems, utility tariff rates, and wholesale electricity prices. I assume that for a rooftop solar PV system, this hypothetical customer finds that the acquisition cost is in the range of data reported in two recent studies, one by the National Renewable Energy Laboratories (NREL)[2] and one by the Department of Energy and Lawrence Berkeley National Laboratory (LBNL).[3] The NREL study estimates the range for residential installed costs to be

[2] "U.S. Photovoltaic Prices and Cost Breakdowns: Q1 2015 Benchmarks for Residential, Commercial, and Utility-Scale Systems," National Renewable Energy Laboratories, September 2015.

[3] "Tracking the Sun VIII: The Installed Price of Residential and Non-Residential Photovoltaic Systems in the United States," Sunshot (U.S. Department of Energy) and Lawrence Berkeley National Laboratory, August 2015.

between $2.67/W and $4.31/W, with a benchmark price of $3.09/W. The LBNL study reports the median cost of residential PV systems installed in the United States as $4/watt, with the 20th percentile and 80th percentile of $3.4/watt and $5.0/watt, respectively.

Q. WOULD THE PV EQUIPMENT PURCHASED BY THE HOMEOWNER HAVE THE SAME CAPACITY AS THE SHARE OF THE PROPOSED COMMUNITY SOLAR FACILITY?

A. No. I have normalized the costs of the two systems to put the comparison on an "apples to apples" basis, that is, to compare the costs of producing the same amount of electric energy from the rooftop and community-scale PV systems. To begin, I assumed that the customer wants to offset 5,000 kWh of annual electricity consumption with solar PV generation. This is roughly consistent with half the annual consumption of a typical residential electric utility customer, which is in the neighborhood of 10,000 to 12,000 kWh.[4] I then estimated how many kilowatts (kW) of solar PV capacity would be needed to produce 5,000 kWh per year—or more precisely 5,000 kWh per year in the first year of operation, since the productivity of solar panels generally declines at a rate of approximately 0.5% per year. (This degradation of performance is characteristic of both rooftop and community-scale solar PV systems.) A community-scale project installed on the ground can be designed so that panel pitch and orientation maximize energy production, whereas a

[4] The maximum bill credit a customer will be allowed to realize under the community solar tariff is 100% of historical energy usage. It is likely that participants will choose to participate at a level that is below the maximum to allow for variation in consumption due, e.g., to variation in weather. In fact, this figure is not critical to my analysis. It serves only as a reference point. I would obtain the same result if I had instead used, say, 10,000 kWh per year.

typical rooftop system is constrained by roof angle and orientation. As a result, the yield from a community-scale system is usually higher than the yield from a rooftop system, so a smaller array of community-scale panels is required to produce the same amount of energy as a rooftop PV system. In other words, it takes fewer panels in a community-scale PV system than it does in a residential system to produce the same amount of energy.

Q. DOES YOUR ECONOMIC ANALYSIS INCLUDE ALL OF THE FACTORS THAT UTILITY CUSTOMERS WILL OR MIGHT TAKE INTO ACCOUNT?

A. No. Prospective participants are not homogeneous. Their houses will not be equally suitable for operating solar PV systems, due to roof orientation, the presence of obstructions, and so on. Their ability and interest in devoting time and effort to selecting and purchasing a rooftop PV system, arranging for installation and maintenance, and dealing with the consequences of having a rooftop PV system on their houses will likely vary. Their willingness to pay for the non-pecuniary satisfaction of displacing fossil-fuel generation resources will vary too. Finally, their projections and valuations of the returns to investments in solar PV systems are subjective and thus not observable. The most I can do from my vantage point is to consider the elements of the two alternatives that are tangible (for example, the purchase price of a residential system and the license fee for community solar) and to try to identify other, intangible elements that might influence customer choices.

Q. WHAT ARE THE PRINCIPAL DIFFERENCES IN THE ECONOMICS OF THE COMMUNITY SOLAR TARIFF VERSUS ROOFTOP PV FROM THE CUSTOMER PERSPECTIVE?

A. There are three primary differences between the community solar tariff and rooftop PV from a utility customer perspective. The first is the cost and productivity of community-scale versus residential-scale solar PV systems. The second is the form of the returns to participation in the solar tariff versus the returns to the purchase of a residential PV system. Participants in the community solar tariff will receive credits on their utility bills for the market value of the wholesale energy and capacity produced by the community PV system. A residential customer who installs a rooftop solar PV system will see reductions in her/his utility bills that are proportional to the volumetric component of the utility rates. The volumetric component of utility rates includes charges for the costs of distribution and other utility functions as well as charges for wholesale energy and capacity costs. The third difference is that homeowners are eligible for an investment tax credit if they choose to purchase rooftop solar systems. EKPC, in contrast, cannot utilize the investment tax credit when it invests in community-scale PVs. On the other hand, it can obtain tax-advantaged financing by issuing clean renewable energy bonds (CREBs). In order for community solar to be more attractive than rooftop PV, the relatively greater productivity, lower cost, and tax-advantaged financing of community-scale PVs have to compensate for the net metering benefit and investment tax credit available to residential customers.

Q. PLEASE SUMMARIZE YOUR COMPARISON OF THE COMMUNITY SOLAR TARIFF VS. RESIDENTIAL ROOFTOP SOLAR.

A. After analyzing the economics of the community solar tariff and residential rooftop solar, I conclude that participating in the proposed community solar tariff is likely to be an attractive alternative to investing in a residential rooftop PV system for many potential customers. In order for the rooftop system to be comparable in terms of economics, the installed cost of the rooftop PV would likely have to be below approximately [redacted] As I said earlier, the most recent NREL study estimates the range of residential installation cost to be between $2.67/W and $4.31/W, with a benchmark price of $3.09/W. The range of costs is driven by a number of factors, including the size of the regional market, competition, and local regulations. NREL calculates regional benchmark prices between $3/W in Arizona and $3.30/W in Massachusetts. It does not report a benchmark price for Kentucky. The LBNL study, on the other hand, lists the median cost of residential PV systems installed in the United States as $4/watt, with the 20th percentile and 80th percentile of $3.4/watt and $5.0/watt, respectively. These data suggest that the community solar tariff will provide an attractive alternative for many residential customers who wish to participate in solar electric generation.

Q. ARE THERE OTHER, HARDER TO QUANTIFY DIFFERENCES BETWEEN THE COMMUNITY SOLAR TARIFF AND ROOFTOP PV SOLAR?

A. Yes. As I said earlier, residential customers are diverse and their choices will be influenced by various unobservable factors, such as their willingness to devote time and energy to selecting a rooftop solar system, arranging for installation and maintenance, and dealing with the consequences of having solar PV equipment on their roof. I have not attempted to incorporate these factors into my calculation of the break-even cost of residential rooftop solar PV systems.

Q. PLEASE DESCRIBE THE ANALYSIS YOU PERFORMED.

A. I started with the fee EKPC proposes to charge to license one panel of the community solar project: $460. Since each panel has a capacity of 335 watts (DC), $460 per panel corresponds to a cost of $1.373 per watt (DC) of solar PV capacity. Next, I used the information and methodology included in a recent report prepared by The Brattle Group[5] to identify the attributes of the relevant community-scale and residential-scale PV systems—attributes such as array type, array tilt, and inverter efficiency—to select as inputs to NREL's PV Watts program, which gives estimates of the hourly generation profile and total annual production for various types of solar PV systems in selected locations within the United States. Based on these inputs, PV Watts estimates that a 1 kW residential PV system located in Lexington, Kentucky would generate 1,148 kWh of electricity in the first year of operation—equivalent to a 13.1% capacity factor—and that a 1 kW share of the community-scale project, which is a mix of single-axis tracking panels (5.88%) and fixed panels (94.1%), would generate 1,325 kWh of electricity in the first year of operation—a 15.1%

[5] See "Comparative Generation Costs of Utility-Scale and Residential-Scale PV in Xcel Energy Colorado's Service Area," report prepared by The Brattle Group for First Solar, July 2015.

capacity factor. Thus, the capacity of a residential PV system would need to be 4.35 kW to generate 5,000 kWh in the first year of operation. To generate the same 5,000 kWh of solar energy in the first year of operation, a customer would have to buy a share in the community-scale project equivalent to 3.77 kW of capacity. I concluded that participating in the community solar tariff to offset 5,000 kWh of consumption would require payment of a license fee equal to $5,177 (the product of 3.77 kW and $1,373/kW).

Participants in the community solar tariff will receive regular bill credits for the value of energy and capacity sold into the PJM energy and capacity markets. They will also have the option to receive bill credits for the sale of renewable energy credits (RECs). In contrast, residential customers who install rooftop PV systems will receive bill credits for the amount of energy their PV systems produce, in proportion to the volumetric component of their tariff rates. They, too, are entitled to the associated RECs. Since both community solar participants and residential rooftop PV owners are entitled to realize value from the sale of RECs, I have not included them in my break-even analysis.

Future market prices of energy and capacity are, of course, highly uncertain. As estimates of future energy and capacity prices, I used forward prices and price forecasts for energy delivered to the AEP Dayton Hub and for capacity delivered to the PJM RTO locational delivery area. These forward prices were obtained by EKPC from ACES, an energy marketing and advisory firm. To estimate the expected annual energy and capacity revenues from a 3.77 kW share of the community solar project, I assumed that the community-solar project would receive a capacity credit

equivalent to 38% of its installed capacity.[6] Note that this 38% capacity credit is not the same thing as the average capacity factor of the community solar facility I referred to earlier. It is, rather, the administratively determined basis for calculating the capacity revenues the community solar facility will be eligible to receive under current PJM policy.[7]

Future residential tariff rates are uncertain too. As estimates of future tariff rates, I assumed that the component of residential rates associated with energy costs increases with wholesale energy prices, that the component associated with capacity costs increases with wholesale capacity prices, and that charges for distribution and other utility costs increase at a rate of 2.5%/year.

Finally, I assumed that the energy production of the solar panels will decline by 0.5% per year. This assumption was used to analyze both the residential and the community solar options.

Q. PLEASE DESCRIBE HOW YOU CALCULATED THE "BREAK-EVEN" COST OF ROOFTOP SOLAR.

A. I calculated the discounted present value of (a) the credits for wholesale energy and capacity production under the community solar tariff and (b) the residential bill reductions with a rooftop PV system under net metering. I used a 6.5% discount rate, roughly in line with an estimate of the weighted average cost of capital for an investor

[6] See PJM Manual M21: "Rules and Procedures for Determination of Generating Capability," Revision 11, Effective Date: March 5, 2014.

[7] PJM capacity credits are based on availability during peak hours, which are mostly daylight hours; hence the high credit rate for solar generation in relation to its average capacity factor.

owned electric utility. I then calculated the installed cost of rooftop PV capacity such that a 4.35 kW rooftop PV system producing the same 5,000 kWh of electricity (in the first year of operation) would be a break-even investment in relation to participating in the community solar tariff. Finally, I adjusted this break-even cost to account for the fact that investments in rooftop solar are eligible for a 30% investment tax credit. Based on this analysis, I concluded that a rooftop solar PV system costing more than [redacted] would be less attractive than participating in the community solar tariff, other things being equal.

Q. HAVE YOU PERFORMED ANY SENSITIVITY ANALYSIS?

A. Yes. As I emphasized earlier, customers will arrive at subjective valuations of the returns to investments in solar PV systems—returns to participation in the community solar tariff and returns to investments in residential rooftop PV systems. For example, the license under the community solar is for a 25 year term. Rooftop PV systems could last longer than 25 years, so it is conceivable that someone who puts a PV system on their roof could anticipate returns for more than 25 years. On the other hand, American homeowners typically own their houses for substantially less than 25 years, so it is possible that participants anticipate returns for less than 25 years. (Research on the impact of rooftop PV systems on home resale values leaves unclear whether homeowners will recover the cost of rooftop PV systems when they sell their houses.[8]) More generally, customers may have different assessments and valuations of the uncertainty associated with future returns, with the long-term

[8] See, for example, the discussion in Ben Hoen et al., "Exploring California Home PV Premiums," Lawrence Berkeley National Laboratory, December 2013.

performance of PV panels, and with the rate of increase in residential tariff rates. With this in mind, I also calculated the break-even installed cost of residential solar under several alternative assumptions. These sensitivity cases are summarized in Exhibit JR-2. First, I discounted the returns to both the community solar and the residential rooftop systems at a rate of 10%, a number roughly in line with the expected rate of return on common stocks. I find that the break-even cost for rooftop solar falls to [redacted] Second, I assumed that the escalation of residential tariff rates for distribution and other costs (i.e., other than energy and capacity costs) was 5%, well above the 2.5% rate used for the base case. I find that the break-even cost of residential solar rises to [redacted]. Finally, I checked to see how sensitive the break-even cost is to the degradation rate of solar panel energy output. When I used a 2% annual rate of degradation instead of the 0.5% base-case assumption, the break-even cost falls to [redacted]. These sensitivity results reinforce my conclusion that the community solar option is likely to be attractive to many potential participants.

Q. PLEASE EXPLAIN WHY YOU BELIEVE THAT COMMUNITY SOLAR FACILITY PROPOSED BY EKPC IS AN ATTRACTIVE ALTERNATIVE TO ROOFTOP PV.

A. The results of my calculation suggest that unless a customer considering solar PV can install a rooftop system for approximately [redacted] or less, participating in the community-solar tariff proposed by EKPC will be attractive. [redacted]

[redacted]. The reason is that the lower cost, higher output per unit of capacity, and tax-advantaged financing of the community solar project often more than offset the net metering benefits and investment tax credit available to customers with a residential solar PV system.

IV. Conclusions

Q. HOW WOULD YOU SUMMARIZE THE RESULTS OF YOUR ANALYSIS?

A. I began my analysis by identifying the costs of and returns to participation in EKPC's proposed community solar tariff as an alternative to purchasing a residential rooftop solar PV system. In general, community-scale solar PV systems are more efficient than residential-scale systems. However, residential customers who own rooftop PV systems are eligible for net metering, which provides a larger credit for each kWh of solar energy produced than the community solar tariff will provide. Furthermore, the purchaser of a residential PV system is eligible for an investment tax credit, whereas EKPC, when investing in community-scale PV, is able to utilize tax-advantaged financing. Recognizing these differences, I calculated the installed cost of a residential PV system at which prospective customers would likely be indifferent between acquiring a residential PV system and participating in the solar tariff. I say "likely" because residential customers are heterogeneous and it is not possible to quantify all of the factors that may influence individual customer decisions. I found the break-even point for installed cost to be approximately [redacted]. I therefore concluded that many residential customers who might otherwise purchase

residential rooftop PV systems would find the proposed solar tariff an attractive alternative.

Q. IS IT YOUR PROFESSIONAL OPINION THAT THE COMMUNITY SOLAR TARIFF PROPOSED BY EKPC IS LIKELY TO BE AN ATTRACTIVE ALTERNATIVE TO INSTALLING ROOFTOP PV FOR MANY RESIDENTIAL CUSTOMERS WHO WISH TO PARTICIPATE IN SOLAR POWER?

A. Yes. The voluntary community solar tariff proposed by EKPC provides retail customers with an opportunity to participate in solar PV electricity generation at a cost that is likely to be attractive in relation to the cost of purchasing, installing, and maintaining a residential solar PV system. Furthermore, since the cost of participating in the community solar tariff is likely similar to or lower than the cost of a residential rooftop PV system, it also provides a non-discriminating option for residential customers who don't own a house or who do own a house but do not have a suitable location for a solar panel.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes it does.

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

THE APPLICATION OF EAST KENTUCKY POWER COOPERATIVE, INC. FOR ISSUANCE OF A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY, APPROVAL OF CERTAIN ASSUMPTION OF EVIDENCES OF INDEBTEDNESS AND ESTABLISHMENT OF A COMMUNITY SOLAR TARIFF	)	CASE NO. 2016-_____

VERIFICATION OF JAMES READ

COMMONWEALTH OF MASSACHUSETTS)
)
MIDDLESEX COUNTY)

James Read, a Principal at the Brattle Group, being duly sworn, states that he has read the foregoing prepared direct testimony and that he would respond in the same manner to the questions if so asked upon taking the stand, and that the matters and things set forth therein are true and correct to the best of his knowledge, information and belief.

James Read

The foregoing Verification was signed, acknowledged and sworn to before me this 12th day of July, 2016, by James Read.

NOTARY PUBLIC, Notary #
Commission expiration: 2/17/2023

JENNIFER M. OSSEN
Notary Public
COMMONWEALTH OF MASSACHUSETTS
My Commission Expires
February 17, 2023

EXHIBIT JR-1
CURRICULUM VITAE

JAMES A. READ, JR.
Principal

Cambridge, MA +1.617.864.7900 James.Read@brattle.com

James Read is an expert in valuation, risk management, and capital budgeting. He specializes in the application of option pricing methods to analyze the value and risk of securities, derivatives, non-financial contracts, and real assets. His consulting practice is focused on the energy industry, especially electric power and natural gas.

Mr. Read's consulting engagements have involved, among other topics, energy trading and contract valuation; market and credit risk measurement and management; power and fuel procurement; hedging retail electric and gas service obligations; valuation of generation, storage and transmission assets; analysis, modeling and forecasting energy market prices and volatility; and investment decision making. He has developed analytical methods and software tools for valuation and risk management of energy contracts and portfolios. He has also developed and taught professional training courses on these topics. In addition to his management consulting, Mr. Read has served as a consulting and testifying expert in litigation and regulatory matters involving cost of capital, valuation, commercial damages, securities, taxes, and energy trading.

Prior to joining The Brattle Group, Mr. Read was a Principal with Incentives Research Inc., and before that Director of Financial Consulting with Charles River Associates. He holds a B.A. in economics from Princeton University and an M.S. in finance from the Sloan School of Management at the Massachusetts Institute of Technology.

AREAS OF EXPERTISE

- Electric Power
- Natural Gas
- Risk Management
- Securities
- Valuation

EXPERIENCE

Management Consulting

- Mr. Read has conducted independent reviews of risk management policies, procedures, and compliance for electric power companies in the United States and Canada.
- Advised numerous companies in the electric power industry regarding portfolio risk assessment and management, including forward curve building, volatility modeling and estimation, valuation of energy contracts and generation assets, calculation of risk exposures, and measurement of portfolio risk.

- Analyzed historical data on availability and outages of generating units to develop a model for describing and forecasting generation fleet reliability.
- Worked with a major electric utility to develop a custom methodology for measuring the risk of its power supply portfolio. This was used for regulatory reporting as well as internal management purposes.
- Developed economic theory for allocating capital to lines of business in multiple-line insurance companies.
- For the Electric Power Research Institute (EPRI), directed development of the *Energy Book System* (EBS) software for valuation and management of energy resources. EBS includes tools for portfolio risk management, valuation and pricing of wholesale and retail energy contracts, and management of generation resources.
- Developed and taught professional training courses for EPRI on the application of derivatives methods for understanding the value and risk of commodity contracts and physical assets. Courses include *Value & Risk in Energy Markets*, *Applied Valuation & Risk Management*, and *Generation Asset Valuation*.
- Advised many clients in connection with the valuation of power generation assets for purchase or sale. Projects entailed development and use of options-based valuation tools as well as estimation of long-term forward price curves and volatility term structures.
- Developed a derivatives-based methodology for estimating the cost of capital for investments in merchant power generation.
- Designed methodology for pricing a new product in the gas pipeline industry that would allow shippers to purchase options on pipeline capacity expansion.
- Developed a valuation algorithm for a retail electric service that allows the supplier to buy back electric energy when wholesale market conditions are tight.
- Developed an options-based valuation and decision-making model of nuclear power plants. The model explicitly incorporates the flexibility to shut down prior to operating license expiration and the flexibility to extend the operating license.
- Advised Tennessee Valley Authority and other companies in connection with their evaluations of bids received in response to power purchase option RFPs. Engagements involved development of models for evaluating option-type bids and development of forward price and volatility curves.
- Mr. Read is a principal author of the *Utility Capital Budgeting Notebook*, which integrates previous EPRI studies in finance and project evaluation into a single text.

- For EPRI, prepared a report that describes how the theory and methods of option pricing can be exploited to help evaluate investment projects and contracts.
- In a study for EPRI, developed a methodology for selecting project-specific discount rates. The methodology is based on the idea that cash flows can be partitioned into risk classes, and hence that the value of an investment project can be found by adding up the values of the parts.
- In a study for EPRI, identified a conceptual problem that arises in applications of the revenue requirements method when utility ratemaking procedures are inflexible. The study pointed out that there is feedback between demand and rates, which may undermine the logic for cost-based evaluation of projects.
- In a study for EPRI, developed a rigorous procedure for calculating the cost of holding fuel and other commodity inventories. The procedure exploits information in commodity futures and money markets.
- In a study for EPRI, was part of study team that developed theoretical and empirical analyses of a bias that exists in conventional measures of market risk when applied to the shares of public utility companies. It explained why a bias is likely to arise, provided empirical confirmation of the bias, and devised corrected measures of market risk.
- In a study for EPRI, prepared an exposition of the revenue requirements method. Among other findings, the report concluded that the appropriate risk-adjusted discount rate for calculating the present value of revenue requirements may differ from the discount rate used to calculate net present value. It also identified the logical errors involved in the use of customer discount rates for calculating the present value of revenue requirements.
- Project manager in a study for the U.S. Department of Energy to assess the cost of capital for public and private investments in petroleum stockpiles. The objective of the research was to assess the investment value of private oil stocks and thereby determine the effectiveness of government policies aimed at stimulating private stockpile formation.

Litigation and Regulatory Support

- In a class action matter, Mr. Read prepared an expert report on the cost of capital acquired through the merger of a public company with a special purpose acquisition company (SPAC). The merger involved a complex exchange of warrants and shares.
- In a federal tax matter, Mr. Read was an expert witness on the economic substance of foreign exchange transactions ostensibly facilitated by a credit agreement with a major financial institution.

- Advised legal counsel in several matters involving allegations of manipulation of natural gas and electricity markets in the United States.
- Served as a consulting expert in an international arbitration matter involving two companies in a joint venture to market beverages in Central America. The dispute centered on an option held by one of the parties to buy certain assets from the other, in particular, implementation of the formula set out in the shareholders' agreement for the option exercise price.
- Mr. Read served as a consulting expert in several tax matters that involved complex transaction structures utilizing exotic options and other derivatives.
- Served as a consulting expert in a number of litigation matters that involved option backdating. This work included assessing the odds that options were backdated as well as valuing executive and employee stock options.
- Advised counsel regarding energy trading and risk management practices in an arbitration between participants in a major energy marketing and trading joint venture.
- Provided legal counsel with economic analysis of a series of structured finance transactions in a litigation matter involving companies in the energy and financial services industries.
- Prepared an expert report on the determination of settlement prices for certain commodity futures contracts.
- Advised legal counsel in an arbitration that concerned the termination value of power supply contracts written under the WSPP master agreement.
- On behalf of an industry trade group, conducted a preliminary investigation of whether certain commodity futures prices had been manipulated.
- Analyzed gaming practices in the Western power markets during the energy crisis of 2000-2001. Prepared expert testimony for hearings before the Federal Energy Regulatory Commission.
- Assisted in the development of expert testimony in connection with regulatory hearings about the sale of a nuclear power station by a public utility to an unregulated energy company.
- Advised several clients in the electric utility industry in connection with the design, pricing, and risk management of "provider of last resort" and similar retail transition services created as part of industry restructuring.
- Analyzed the impact of credit risk on the pricing of energy contracts. Analysis was performed in the context of a regulatory review of energy procurement decisions.

- Used option pricing methods to estimate the premium over cost required to compensate investors for the long-term nature of investments in railroad assets. Analysis was used in a revenue adequacy proceeding before the Surface Transportation Board.

Other Experience

- Financial Analyst, Corporate Financial Staff, General Motors Corporation. Mr. Read worked in forward product programs and corporate transfer pricing.
- Staff Economist, Mail Classification Research Division, United States Postal Service. Mr. Read's responsibilities included writing statements of work, technical evaluation of analytical study proposals, and directing contractors in the Postal Service's Long Range Classification Research Program.
- Staff Economist, Office of Rates, United States Postal Service. Mr. Read was engaged in the preparation of testimony filed with the Postal Rate Commission in support of requests for changes in rates. His responsibilities included cost analysis, revenue forecasting, econometric analysis of postal markets, and rate design.

PUBLICATIONS & WORKING PAPERS

"A Theory of Risk Capital" (with S. C. Myers and Isil Erel), *Journal of Financial Economics*, December 2015.

"Real Options, Taxes and Financial Leverage" (with S. C. Myers), National Bureau of Economic Research, Working Paper 18148, June 2012.

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Retail Risk Management: A Primer (with R. Goldberg), EPRI 1002225, Palo Alto: Electric Power Research Institute, 2003.

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Portfolio Optimization: Concepts and Challenges, EPRI 1001567, Palo Alto: Electric Power Research Institute, 2002.

"Capital Allocation for Insurance Companies" (with S. C. Myers), *Journal of Risk and Insurance*, December 2001. (Selected by Casualty Actuarial Society as most valuable paper published by American Risk and Insurance Association in 2001. Winner of Robert C. Witt Research Award for outstanding feature article in the *Journal of Risk and Insurance* in 2001.)

Optimization and Valuation of Natural Gas Storage (with R. Goldberg), EPRI 1005947, Palo Alto: Electric Power Research Institute, 2001.

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The Utility Capital Budgeting Notebook (with others), EPRI TR-104369, Palo Alto: Electric Power Research Institute, 1994.

"It's All Downstream From Here" (with S. Thomas), *Energy Risk*, June 1994.

"Analysis for Changing Minds" (with S. Thomas), *Energy Risk*, April 1994.

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"Rates of Return that Include New Gas Industry Risks," *Natural Gas*, November 1989.

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"Option Pricing: A New Approach to Mine Valuation" (with S. Palm and N. Pearson), in *Selected Readings in Mineral Economics*, Pergamon Press, 1987.

Capital Budgeting for Utilities: The Revenue Requirements Method, EPRI EA-4879, Palo Alto: Electric Power Research Institute, 1986.

"Determining the Cost of Capital for Utility Investments" (with A.L. Kolbe and R. Lincoln), in *Energy Markets in the Longer Term: Planning Under Uncertainty*, Ed. A.S. Kydes and D.M. Geraghty, Elsevier Science Publishers, 1985.

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Rate Shock and Power Plant Phase-Ins (with A.L. Kolbe), Charles River Associates, Washington, DC: Edison Electric Institute, 1984.

Critique of Conventional Betas as Risk Indicators for Electric Utilities (with A.L. Kolbe), EPRI EA-3392, Palo Alto: Electric Power Research Institute, 1984.

Presentations

"Valuation of Wind Power", presented to *Wind Power Development Tutorial*, InfoCast, San Diego, July 9-10, 2009.

"Wind Power: Economic & Technology Risk", presented to *Renewable Energy M&A Summit*, Infocast, Washington, D.C., April 15, 2009.

"Techniques for Valuation of Wind Generation", presented to *Wind Power Development Tutorial*, Infocast, San Francisco, July 29-30, 2008.

"Using Volatility in Valuation & Risk Management", presented to *Gas Volatility*, Infocast, Houston, September 22-24, 2003.

"Fundamentals of Portfolio Risk Management" (with R. Goldberg), Tutorial presented to *Portfolio Optimization*, Infocast, Houston, November 14-16, 2001.

"Retail Transition Services in Electric Utility Restructuring," Presentation to Illinois Energy Leadership, Chicago, October 29-30, 2001.

"Provider of Last Resort: Retrospect & Prospect," Presentation to Staff Subcommittee on Accounting and Finance, National Association of Regulatory Utility Commissioners, Portland, Maine, October 1, 2001.

"Theory & Methods of Portfolio Risk Management" (with T. Parkinson), Tutorial presented to *Portfolio Risk Analysis & Management*, Infocast, Houston, February 16-18, 2000 and Chicago, October 2-4, 2000.

"Using Option Pricing Formulas," Presentation to *Pricing Wholesale Energy Products & Services*, Infocast, Houston, November 28-30, 2000.

"The Effect of Volatility Modeling on Management Decisions," Presentation to *Market Price Volatility*, Infocast, October 30 - November 1, 2000.

"Option Pricing in a Price Spike World," Presentation to *International Energy Pricing Conference*, EPRI, Washington, D.C., July 26-28, 2000.

"Applications of Portfolio Techniques to Fuel Decisions," Presentation to *Fuel & Power Supply Seminar*, EPRI, Cleveland, November 9-11, 1998.

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"Managing the Risks of Generation Assets," Presentation to *Integrating Risk Management for Fuel Supply & Power Sales*, Center for Business Intelligence, Houston, February 5-6, 1998.

"Tactics for Matching Strategy & Market Opportunity through Hedging," Presentation to *Fuel Management: Innovative Fuel Strategies for a Price-Competitive Power Market*, Center for Business Intelligence, Colorado Springs, August 14-15, 1997.

"Implementing Risk Management in Electric Power," Presentation to *European Electricity Trading*, ICM Marketing Ltd., London, January 29-30, 1997.

"Integrating Fuel & Power Price Risk Management," Presentation to *Managing Fuel Risk*, Center for Business Intelligence, Dallas, December 12-13, 1996.

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"Capacity Prices in a Competitive Power Market," Presentation to Symposium on *The Virtual Utility*, Saratoga Springs, March 31-April 2, 1996.

"Evaluating OPAs: The Art of Pricing Electricity Derivatives," Presentation to *Resource Acquisition in a Competitive Power Market*, International Business Communications, Chicago, October 30-31, 1995.

"Basis Risk in Energy Markets," Presentation to *Achieving Success in Evolving Electricity Markets*, EPRI, Atlanta, October 10-12, 1995.

"Risk and the Revolution in Finance: Implications for Planning," Presentation to *Strategic Resource Planning and Asset Management Forum*, EPRI, St. Petersburg, Florida, December 8-9, 1993.

"Why Small Firms Shun Discounted Cash Flow Analysis," Presentation to the Financial Management Association, Annual Meeting, San Francisco, October 22, 1992.

"Discount Rates in Utility Planning," Lecture to American Gas Association/Edison Electric Institute, Chicago, May 22, 1991.

"Weighted Average Cost of Capital: Before-Tax or After-Tax?" Presentation to the Budgeting and Financial Forecasting Committee, Edison Electric Institute/American Gas Association, Denver, September 10, 1990.

"Economic Evaluation of Utility Projects and Contracts," Seminar sponsored by the Electric Power Research Institute, San Diego, March 2-3, 1989.

"Planning for Utilities: The Value of Service," Paper presented to the Conference of Integrated Value-Based Planning, New Orleans, December 2, 1987.

"Capital Budgeting and the Cost of Capital," Lecture to the Marginal Cost Working Group, Boston, May 6, 1986.

"Capital Budgeting for Electric Utilities," Seminar sponsored by the Electric Power Research Institute, New Orleans, February 26-27, 1986.

"Risk and Capital Budgeting in the Electric Utility Industry," Paper presented to Rutgers University Advanced Workshop in Public Utility Economics and Regulation, New Paltz, New York, May 30, 1985.

"Critique of Rate of Return Methods in Public Utility Rate Cases," Lecture to Advanced Regulatory Studies Program, National Association of Regulatory Utility Commissioners, Williamsburg, Virginia, February 15, 1984.

"Utility Rate Shocks: The Problem and Possible Solutions," Paper presented to the Tenth Annual Rate Symposium, Institute for the Study of Regulation, Washington, DC, February 6, 1984.

Testimony

Testimony on behalf of East Kentucky Power Cooperative before the Kentucky Public Service Commission, Case No. 2015-00267, November 2015.

Testimony on behalf of East Kentucky Power Cooperative before the Kentucky Public Service Commission, Case No. 2013-00259, January 2014.

Expert Report in Pointe du Hoc Irrevocable Trust v. Commissioner of Internal Revenue, Docket No. 6041-05, October 2011.

Expert Report and Testimony in NPR Investments, LLC vs. United States of America, Case No. 5:05-CV-219-TJW. United States District Court for the Eastern District of Texas, Texarkana Division, November 2009 and March 2010.

Expert Report in John Campbell v. The Talbots, Inc. *et al.*, Court of Chancery of the State of Delaware, C.A. No. 5199-VCS, February 2010.

Testimony on behalf of the California Department of Water Resources, Sempra Energy Resources vs. California Department of Water Resources, No. GIC 789291, before the Superior Court in the State of California, November 2009.

Rebuttal Testimony on behalf of National Grid, plc and Keyspan Corporation, Case 06-G-1185, State of New York Public Service Commission, March 7, 2007.

Expert Report and Testimony in Klamath Strategic Investment Fund, LLC v. United States of America, Civil Action No. 5:04-cv-00278-TJW (lead case). United States District Court for the Eastern District of Texas, Texarkana Division, May 2006 and October 2006.

Expert Report and Declaration in re National Westminster Bank PLC v. The United States. United States Court of Federal Claims, No. 95-758 T, March 4, 2005 and July 12, 2005.

Expert Report in re Enron Corp., et al. v. Nevada Power Company and Sierra Pacific Power Company. United States Bankruptcy Court, Southern District of New York, February 23, 2005.

Expert Report in re New York Mercantile Exchange, Inc. v. IntercontinentalExchange, Inc. United States District Court, Southern District of New York, August 2004.

Prepared Direct Testimony in re Enron Power Marketing, Inc. and Enron Energy Services, Inc., Docket No. EL03-180-000 *et al.* Federal Energy Regulatory Commission, February 27, 2004 and January 31, 2005.

Expert Report in Idacorp Energy L.P. v. Overton Power District No. 5., The District Court of the Fourth Judicial District of The State of Idaho, In and For The County of Ada, CV OC 0107870D, February 28, 2003.

Prepared Direct Testimony on behalf of New York State Electric & Gas, Case 01-E-0359, State of New York Public Service Commission, August 2, 2001 and September 12, 2001.

Affidavit prepared on behalf of Tennessee Gas Pipeline Company, Docket No. RP80-97-058, Federal Energy Regulatory Commission, February 28, 1988.

EXHIBIT JR-2

BRATTLE SENSITIVITY ANALYSIS

Exhibit JR-2
Base-Case Parameters & Sensitivity Results

Base-Case Parameters

Parameter	Community Solar	Residential Solar
Equipment/license life (years)	25	25
Degradation rate (/year)	0.5%	0.5%
O&M cost ($/kW-year)	16.3	21
O&M escalation rate (/year)	2.5%	2.5%
Capacity credit (/installed capacity)	38%	n/a
Retail rate escalation[1] (/year)	n/a	2.5%
Discount rate (/year)	6.5%	6.5%

Sensitivity Cases

Case	Parameter Value	Break-Even Cost of Rooftop Capacity
Base case		[redacted]
Discount rate (/year)	10%	
Retail rate escalation (/year)	5.0%	
Degradation rate (/year)	2.0%	

[1] The retail rate escalation parameter applies only to the "other cost" component of the retail rate avoided under net metering—the component that corresponds to charges for costs other than energy and capacity. The energy and capacity components of the retail rate escalate with the wholesale energy and capacity prices obtained by EKPC from ACES.

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

THE APPLICATION OF EAST KENTUCKY POWER COOPERATIVE, INC. FOR ISSUANCE OF A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY, APPROVAL OF CERTAIN ASSUMPTION OF EVIDENCES OF INDEBTEDNESS AND ESTABLISHMENT OF A COMMUNITY SOLAR TARIFF	)	Case No. 2016- 00269

MOTION FOR CONFIDENTIAL TREATMENT

Comes now East Kentucky Power Cooperative, Inc. ("EKPC"), by and through counsel, pursuant to KRS 61.878, 807 KAR 5:001, Section 13 and other applicable law, and for its Motion requesting that the Kentucky Public Service Commission ("Commission") afford confidential treatment to information contained in exhibits to the Application filed in the above-captioned proceeding, respectfully states as follows:

1. In its Application, EKPC requests the Commission to grant a Certificate of Public Convenience and Necessity ("CPCN") to construct and operate an 8.5 MW community solar facility at its headquarters in Winchester, Kentucky (the "Project"). EKPC also requests Commission approval to establish a community solar tariff and to assume evidences of indebtedness arising from and relating to the construction of the Project.

2. Attached to the Application as Exhibit 1 is the testimony of David Crews. Attached as Exhibit DC-5 to Mr. Crews' testimony is a map containing the location of the Project. The map contains detailed information regarding the location of the Project as well as the location of other utility facilities currently located on the site.

3. Attached to the Application as Exhibit 3 is the testimony of Todd Bartling. Attached as Exhibit TB-2 to Mr. Bartling's testimony is the report prepared by National Renewables Cooperative Organization ("NRCO"). In the NRCO report, the bids received as a result of the Request for Proposals ("RFP") that was issued by NRCO on behalf of EKPC for the Project are summarized. This information contains the names of the companies submitting bids, the amounts of the bids and other commercially-sensitive information. This information is also in the body of the testimony of Todd Bartling.

4. In addition, EKPC is tendering as Exhibit JR-2 a sensitivity analysis performed by James Read, a principal with the Brattle Group. That analysis and the testimony relating to it describe the economic principles taken into account in arriving at a figure where the cost of the Project is likely to be favorable to retail customers. This information is highly sensitive commercial information that was prepared at the request of EKPC specifically for this proceeding. Its public disclosure would be a boon to entities seeking to compete against EKPC for the sale and installation of rooftop PV solar facilities throughout EKPC's system.

5. The map, the NRCO report and the portion of Todd Bartling's testimony discussing that NRCO report, and the sensitivity analysis performed by James Read and the portion of his testimony discussing that analysis, are being tendered in redacted form in the public version of EKPC's filing and in an unredacted form filed under seal herewith. Collectively, this information and these documents are hereinafter referred to as the "Confidential Information."

6. The Confidential Information contains extensive information that describes the location of the Project, critical energy infrastructure information pertaining to the physical facilities for generating and transmitting electricity, and information received by NRCO on behalf of EKPC in the course of an RFP from third-party bidders as well as NRCO's analysis in

recommending a bidder to EKPC and economic analysis regarding the relative cost of the Project to other solar applications. This information is commercially sensitive and proprietary.

7. The Confidential Information is retained by EKPC on a "need-to-know" basis and is not publicly available. If disclosed, the Confidential Information would give potential vendors and competitors a tremendous competitive advantage in the course of ongoing and future negotiations with EKPC. These market advantages would likely translate into higher costs for EKPC and, by extension, detrimentally higher rates for EKPC's Members. Likewise, the Confidential Information includes critical energy infrastructure information that describes the physical location and characteristics of vital energy facilities of EKPC and others. This information would be useful to those looking to disrupt, damage or destroy the equipment and facilities of EKPC and others. Thus, disclosure of the Confidential Information would be highly prejudicial to EKPC, EKPC's Members and those Members' retail customers.

8. The Kentucky Open Records Act exempts the Confidential Information from public disclosure. *See* KRS 61.878(1)(c). As set forth above, disclosure of the Confidential Information would permit an unfair advantage to third parties. Moreover, the Kentucky Supreme Court has stated, "information concerning the inner workings of a corporation is 'generally accepted as confidential or proprietary.'" *Hoy v. Kentucky Industrial Revitalization Authority*, 907 S.W.2d 766, 768 (Ky. 1995). Because the Confidential Information is critical to EKPC's effective execution of business decisions and strategy, it satisfies both the statutory and common law standards for being afforded confidential treatment.

9. Likewise, KRS 61.878(1)(m)(1) additionally protects "[p]ublic records the disclosure of which would have a reasonable likelihood of threatening public safety by exposing a vulnerability in preventing protecting against, mitigating, or responding to a terrorist act...," and

specifically exempts from public disclosure certain records pertaining to public utility critical systems. *See* KRS 61.878(1)(m)(1)(f). If disclosed, the portion of the Confidential Information which contains critical energy infrastructure information could be utilized to commit or further a criminal or terrorist act, disrupt critical public utility systems, and/or intimidate or coerce the civilian population. Disclosure of the Confidential Information could result in the disruption of innumerable other infrastructure systems which relate to, or rely upon, the safe and reliable provision of electricity. Moreover, disclosure of the Confidential Information could have a reasonable likelihood of threatening the public safety. Maintaining the confidentiality of all the Confidential Information relating to energy infrastructure is necessary to protect the interests of EKPC, its Owner-Members and end-use Members, and the region at large.

10. EKPC does not object to limited disclosure of the Confidential Information, pursuant to an acceptable confidentiality and nondisclosure agreement, to the Attorney General or any other intervenors with a legitimate interest in reviewing the same for the sole purpose of participating in this case.

11. In accordance with the provisions of 807 KAR 5:001, Section 13(2), EKPC is filing one copy of the Confidential Information separately under seal. The filing of the Confidential Information is noted in the public version of EKPC's Application as Exhibit DC-5 to David Crews' Testimony and Exhibit TB-2 to Todd Bartling's Testimony, which include redacted copies of such information. Confidential treatment is sought for the entirety of the map attached as Exhibit DC-5 to David Crews' testimony and the highlighted portions of Exhibit TB-2 and Todd Bartling's Testimony.

12. In accordance with the provisions of 807 KAR 5:001, Section 13(3), EKPC respectfully requests that the Confidential Information be withheld from public disclosure for a

period of ten years. This will assure that the Confidential Information – if disclosed after that time – will be less likely to include information that continues to be commercially sensitive so as to impair the interests of EKPC if publicly disclosed. However, EKPC reserves the right to seek an extension of the grant of confidential treatment if it is necessary to do so at that time.

WHEREFORE, on the basis of the foregoing, EKPC respectfully requests the Commission to enter an Order granting this Motion for Confidential Treatment and to so afford such protection from public disclosure to the unredacted copies of Confidential Information, which is filed herewith under seal, for a period of ten years from the date of entry of such an Order.

This 21st day of July, 2016.

Respectfully submitted,

Mark David Goss
David S. Samford
L. Allyson Honaker
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Counsel for East Kentucky Power Cooperative, Inc.

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

THE APPLICATION OF EAST KENTUCKY POWER COOPERATIVE, INC. FOR ISSUANCE OF A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY, APPROVAL OF CERTAIN ASSUMPTION OF EVIDENCES OF INDEBTEDNESS AND ESTABLISHMENT OF A COMMUNITY SOLAR TARIFF	))))))	CASE NO. 2016-00269

MOTION TO DEVIATE FROM FILING REQUIREMENTS

Comes now East Kentucky Power Cooperative, Inc. ("EKPC"), by counsel, and hereby moves the Kentucky Public Service Commission ("Commission") to grant EKPC a deviation pursuant to 807 KAR 5:001 Section 22, from the filing requirements contained in 807 KAR 5:001 Section 15(2)(d)(2), respectfully stating as follows:

On July 21, 2016, EKPC filed an application for a Certificate of Public Convenience and Necessity ("CPCN"), approval of certain assumption of evidences of indebtedness and establishment of a community solar tariff. As part of the requirements for the CPCN filing, 807 KAR 5:001 Section 15(2)(d)(2) requires the applicant to file "plans and specifications and drawings of the proposed plant, equipment, and facilities." EKPC has entered into a Turnkey Engineering, Procurement and Construction Agreement ("EPC Agreement") with Lendlease (US) Public Partnerships, LLC ("Lendlease"), which, pending Commission approval, will cause the information which is the subject of the regulation to be created. However, since the EPC Agreement is for the design and engineering work that will generate the plans, specifications and

drawings of the proposed plant, equipment and facilities that will comprise the community solar facility, such documents are not currently within EKPC's custody or control. EKPC will be pleased to file these documents once they are available.

WHEREFORE, EKPC moves the Commission to grant EKPC a deviation, pursuant to 807 KAR 5:001 Section 22, for the filing requirements contained in 807 KAR 5:001 Section 15(2)(d)(2).

This 21st day of July, 2016.

Respectfully submitted,

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