

July 8, 2016

Board of Directors Kentucky Municipal Energy Agency (KyMEA) C/o Rubin & Hays 450 South Third Street Louisville, KY 40202

Subject: Evaluation of the Proposals Received in Response to the September 2015 RFP

Dear KyMEA Directors and Alternate Directors:

Executive Summary

In September 2015, the Kentucky Municipal Energy Agency (KyMEA) was formed pursuant to Sections 65.210 to 65.300 of the Kentucky Revised Statutes, as amended, known as the "Interlocal Cooperation Act" (the "Act").

Also in September 2015, KyMEA published an RFP seeking proposals from qualified suppliers of electric capacity and energy, with an Addendum 1 (the "September 2015 RFP" or the "RFP").

KyMEA anticipates using the resources obtained through the RFP process as part of a portfolio of resources to supply all requirements service commencing on May 1, 2019 to the following KyMEA Members (AR Members): the Cities of Bardwell, Falmouth, Madisonville, Paris, and Providence, the Benham Power Board, the Frankfort Plant Board, the Barbourville Utility Commission, and the Corbin City Utilities Commission. The 2019 annual demand and energy requirements of these KyMEA AR Members are projected to be approximately 290 MW and 1,380,000 MWhs, respectively. The power supply planning being accomplished at this time has focused on the period from May 2019 through May 2029 with consideration to positioning KyMEA to continue to be successful beyond May 2029.

KyMEA's planning is progressing with a focus on the needs of the AR Members identified above. However, the RFP made proposers aware that the following considerations may impact the portfolio of power supply resources assembled by KyMEA.

- At some future date, KyMEA anticipates supplying certain capacity, energy, and potentially other services to Owensboro Municipal Utilities (OMU), which owns and operates the coal-fired Elmer Smith Station; however, the power supply arrangements between KyMEA and OMU remain under consideration and will be impacted by decisions OMU makes relative to the Elmer Smith Station. OMU's 2019 annual demand and energy requirements are projected to be approximately 200 MW and 900,000 MWhs, respectively. The capacity rating of Unit 2 of the Elmer Smith Station is approximately 250 MWs. OMU had advised that it anticipates retiring Unit 1 of the Elmer Smith Station by early 2019.
- 2. The City of Berea has participated in KyMEA planning activities and has the opportunity to consider membership in KyMEA. Should Berea join KyMEA, KyMEA's all requirements load would increase approximately 8%-10%.



3. Certain other municipal electric systems in the Commonwealth have expressed an interest in considering membership in KyMEA in the future. Addition of members may increase KyMEA's capacity and energy requirements or present other power supply arrangement considerations.

Overall, the level of response to KyMEA's September 2015 RFP indicated significant interest on the part of several power suppliers in competing to supply resources to KyMEA. We believe the responses provide a sound basis for KyMEA to determine that the recommended Providers have submitted competitive and attractive proposals for various categories of resources to be included in KyMEA's portfolio of resources.

Based on the analyses we have performed and the assumptions and other information on which those analyses are based, we have concluded that three (3) proposers are most advantageous to KyMEA based upon the evaluation factors set forth in the RFP, assuming that negotiation of power purchase agreements ("PPAs") having terms and conditions acceptable to KyMEA can be successfully completed and the satisfaction of other contingencies. Those three proposers are:

- Coal Provider 1
- Coal Provider 2 (Option 3)
- Combined Cycle Provider 1

The proposals from these providers were determined by our analyses to have the lowest cost among competing, comparable proposals and also are most advantageous to KyMEA based on assessment of the evaluation factors set forth in the RFP, which included relevant qualitative considerations. Contracts with these three providers would provide a foundation based on which KyMEA's portfolio would be consistent with KyMEA's goal of establishing a portfolio that would remain competitive with Kentucky Utilities Company (KU) and other suppliers under a wide range of future conditions with respect to fuel prices and environmental policy.

Following KyMEA's determination that Coal Providers 1 and 2 were reasonably susceptible of being selected for award, and working with KyMEA's legal counsel, Spiegel & McDiarmid LLP under the guidance and direction of the KyMEA Board and AR Members, we have negotiated provisions of PPAs with each of them to implement their respective proposed transactions. During those negotiations, both providers honored their proposals and agreed to include provisions in the PPAs that enhance the attractiveness of the transactions to KyMEA.

KyMEA has also determined that Combined Cycle Provider 1 is reasonably susceptible of being selected for award. Discussions have begun with the provider and other interested parties to develop a PPA related to the resource proposed by Combined Cycle Provider 1. Should discussions with Combined Cycle Provider 1 not proceed in a fashion that is acceptable to KyMEA, KyMEA would have options to consider other short or long term alternative resources for inclusion in KyMEA's portfolio, including an option in the PPA with Coal Provider 1 to increase the amount of capacity purchased beginning June 2022.

Since receipt of the responses to the RFP, the proposals, evaluations, and progress of negotiations, as applicable, have been discussed monthly with the KyMEA Board. The discussion have been in closed session due to the confidential nature of the information contained in the proposals and to comply with



the Kentucky Model Procurement Code, specifically Kentucky Revised Statutes 45A.370 titled Competitive Negotiation.

The remainder of this report provides additional information and explanations, all of which are important to a full understanding of the basis for our recommendations.

The September 2015 RFP

The RFP provided that the solicitation was to be conducted under the guidelines of the Kentucky Model Procurement Code, specifically Kentucky Revised Statutes 45A.370 titled Competitive Negotiation. In the RFP, KyMEA reserved the right to negotiate with all, some, or none of the Proposer(s) based on qualification and evaluation criteria determined by KyMEA, at its sole discretion. Proposers were advised that KyMEA reserved the right to initiate negotiations with the highest ranked Proposer(s) in order to achieve the best and final offer, terms, and price. If no agreement was reached with the highest ranked Proposer(s), KyMEA reserved the right to negotiate with successive Proposers in the ranking until an acceptable agreement was reached or all Proposers have been rejected.

Anticipating that the most attractive portfolio for KyMEA would include diversity of resource and fuel types, the RFP was structured to request proposals in the following categories:

- Coal Steam;
- Natural Gas Combined Cycle;
- Natural Gas Combustion Turbine;
- > Other Peaking / Reserve Resources; and
- Contracts to sell energy obtained from undesignated resources and markets subject to payment of liquidated damages equal to KyMEA's replacement energy cost if the energy is not delivered ("LD" or "LD Energy Products").

The RFP indicated that KyMEA intends to purchase power from various suppliers commencing on May 1, 2019 for terms of 3 to 10 years. This range of terms was specified in the RFP to facilitate KyMEA's consideration and comparison of both short and long term transactions and provide the opportunity for KyMEA to construct its portfolio with contracts that would have staggered terms.

The RFP also provided that resources must: (i) be deliverable on a firm, non-interruptible basis to the LGE/KU transmission system, (ii) not be committed for sale to third parties, and (iii) qualify for designation as network resources under the LGE/KU Open Access Transmission Tariff ("OATT") to serve the loads of KyMEA's Member municipal electric systems.

Responses to the RFP

Proposals were received in all of the above-listed categories and for a diversity of terms as follows:

- Short term 3 to 5 years
- ➢ Long term − 10 years (in one case, 10-20 years)
- Extendable 10 years, plus rights to extend



Figure 1 below provides an overview of the proposals received in response to the RFP.

RFP – Overview of Proposals Received 30 Proposals from 12 Suppliers

Base Load and Intermediate Resources

Coal

- 6 Proposals
 Terms Offered:
- 3, 10, or 10 with option 1
- Unit, System or Reserved
- Del. Point LGE/KU or MISO

Other Resources

Natural Gas Fueled Resource New Large Plant

Combined Cycle – Efficient

- 2 CTs on 1 HRSG
- Del. Point MISO
- Terms Offered: 10-20 yrs

LD (Cost of cover)

- 7x24 Strips
- 5x16 Strips
- Energy Only Must take
- Price fixed over term
- 10 Proposals
- Terms Offered: 3 to 10 years
- Del. Point MISO or PJM

Peaking Resources

- 3 Proposals for CTs
- > Duct Firing in Combined Cycle Unit
- Heat Rate Call Option LD
- Hydro Peaking Resource (Letter of Interest)
- Del. Point LGE/KU, MISO, or PJM

All Requirements Service

- Load Matching LD for AR Members (3 or 10 years)
 - Del. Point MISO
- 110 MW Cost-based (May 2019 thru Dec 2021)

Figure 1 - Overview of Proposals Received

Some Proposers submitted multiple proposals that were very similar except for certain details, such as variations in delivery point for a proposal to sell LD Energy. Other Proposers submitted multiple options that were distinct and, therefore, were analyzed as separate proposals. Most proposals were for terms of 3 to 5 years beginning 2019. However, several proposals were for 10-year transactions; one included an option to extend the transaction for a second 10 years, and another indicated a willingness to agree to a 10 to 20 year term. Overall, the level of response indicated significant interest on the part of several power suppliers in competing to supply resources to KyMEA.

In alphabetical order, the following entities submitted responses to KyMEA's September 2015 RFP:

- 1. AEP Energy Partners
- 2. American Municipal Power (AMP)



- 3. Big Rivers Electric Corporation
- 4. BP Energy Company
- 5. Brookfield Energy Marketing LP
- 6. Dynegy Marketing and Trade, LLC and Illinois Power Marketing Company, subsidiaries of Dynegy Inc.
- 7. Exelon Generation Company, LLC (ExGen)
- 8. HenderSun Energy LLC
- 9. Indiana Municipal Power Agency
- 10. Kentucky Municipal Power Agency
- 11. Kentucky Utilities Company
- 12. Owensboro Municipal Utilities
- 13. Paducah Power System

Peaking Capacity and Energy Proposals Rejected – New Peaking Capacity and Energy RFP Issued in April 2016

At its April 28, 2016 meeting, the KyMEA Board of Directors rejected all proposals to supply peaking capacity and energy submitted in response to the September 2015 RFP. The Board also authorized issuance of a new RFP (the "April 2016 RFP") seeking proposals from qualified suppliers of electric peaking capacity and energy produced from natural gas-fueled combustion turbines and other peaking capacity resources.

Proposals responding to the new April 2016 RFP were received on May 19, 2016. A separate report will be made to the Board addressing the results of the April 2016 RFP.

Key Power Supply Objectives Established by KyMEA

KyMEA established certain key objectives in the power supply area to guide the process of developing its power supply program. Generally, KyMEA's objectives can be summarized as follows.

- 1. **Competitiveness** The Portfolio should allow KyMEA to maintain competitiveness with KU and other power suppliers under a wide range of future conditions.
- 2. **Flexibility and Diversity** The Portfolio should have diversity in fuels, resources, transmission paths, locations, and contract terms to allow KyMEA to:
 - a. Reduce risks that changes in various factors will unduly impact KyMEA;
 - b. Adapt its resource portfolio and mix as conditions change; and
 - c. Effectively use renewable resources, as desired by the KyMEA Board and AR Members, and as resource opportunities are identified.



- 3. **Reliable power supply** The Portfolio should provide adequate resources and transmission arrangements to provide a reliable power supply to meet the KyMEA AR Members' requirements.
- 4. Achieve Economies of Scale Benefits The Portfolio should include resources that are competitive in costs with resources available to larger power supply systems i.e., resources that have the advantages of economies of scale.

Balancing Renewables and Conventional Resources

Renewable energy resources are becoming increasingly cost effective, and the KyMEA Board has approved a study to identify potentially attractive renewable resources for inclusion in the power supply portfolio. However, at this time, the costs that must be recovered through electric rates and charges of meeting peak demand and energy requirements from renewables are higher than the costs of conventional resources. Also, key renewable technologies – solar photovoltaic and wind turbines – produce energy only on an "as available basis" that does not correspond with customer energy usage patterns. Cost-effective, proven energy storage options are not yet available. Accordingly, the use of these key renewable technologies must be supplemented and backed up by conventional resources to provide a power supply program that can reliably and economically serve residential, commercial, industrial and municipal energy requirements.

Accordingly, KyMEA is planning its initial resource portfolio to be based primarily on the use of conventional, cost-effective resources, but building in the flexibility to incorporate renewable resources as KyMEA and its AR Members identify attractive opportunities.

Figure 2 on the next page illustrates this strategy.

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Key Objective 2 Balancing Renewables and Conventional Resources

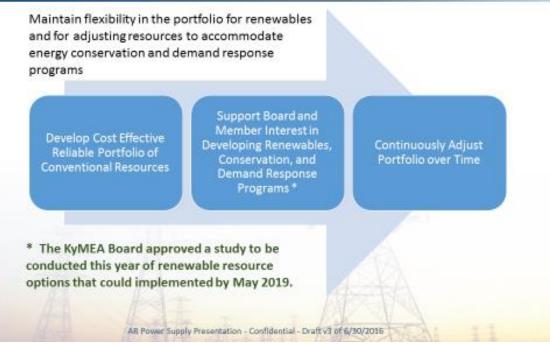


Figure 2- Balancing Renewables and Conventional Resources

Evaluation Criteria

The September 2015 RFP provided that the "The evaluation of proposals ... will consider the impact of a proposal on the KyMEA Members' total net cost of power on a present value basis over the potential term of the transaction."

Further, the RFP provided that the analysis of the responses was to consider projected impacts on KyMEA's costs, risks, flexibility, optionality, and uncertainties.

- "KyMEA's consideration of a proposal also will qualitatively and/or quantitatively consider: (i) risks that actual costs may be higher than projected; (ii) uncertainties that may impact the ability of the respondent to perform as proposed; (iii) flexibility and optionality that may be provided to KyMEA; and (iv) the potential volatility in the projected costs of the proposal."
- "The factors to be considered in the evaluation, in declining order of relative importance, are the following:
 - 1. Projected net cost of power on a present value basis over the potential term of the transaction;
 - 2. Flexibility and optionality afforded to KyMEA under the proposal;
 - 3. Uncertainties concerning performance and availability;
 - 4. Uncertainties concerning transmission arrangements;



- 5. Uncertainties concerning commencement of the transaction by May 1, 2019;
- 6. Creditworthiness; and
- 7. Location of the Proposer's resources."
- "KyMEA reserves the unilateral right to make all decisions and judgments as to the assessment of all proposals, the appropriate assumptions to be used in the analyses, and the weight to be given to each factor."

Evaluation Process and Approach

In evaluating the proposals, the quantitative analysis of each proposal's impact on KyMEA's projected net cost of power on a levelized present value basis over the potential term of the transaction was used to rank the proposals. After identifying the most advantageous proposals based on cost of power, consideration was given to uncertainties that could impact those cost projections and evaluation factors 2 through 7 listed above to determine whether the qualitative assessment in these areas would change the ranking of the proposals.

The proposals to sell specific amounts of capacity and/or energy (e.g., 100 MW plus an energy entitlement or 100 MWh per hour of energy in strips) were grouped according to resources with characteristics appropriate to serving KyMEA's base, intermediate, and peak load. For instance, proposals to sell capacity and energy from coal and combined cycle resources and 7X24 LD energy strips were grouped together. Proposals to sell power from combined cycle resources were also compared to the costs of 5x16 LD energy strips.

The resources in each group were screened based on total evaluated cost and then alternative portfolio options were developed including the most attractive of the resources in each group. The portfolio option identification process considered the proposed term of the transactions, flexibility or uncertainty concerning transaction beginning and ending date, and flexibility regarding the amount of capacity to be purchased during the term of the transactions. Alternative portfolios were then compared and contrasted to each other and to other portfolio proposals submitted in response to the RFP (such as proposals to provide energy that would match the KyMEA load in total and a proposal that included a sale of capacity and energy from a resource plus a sale of additional energy on a non-firm basis).

The quantitative screening analyses were based on a comparison of the \$/MWh costs on annual and levelized present worth bases, taking into account the following costs and considerations:

- 1. Capacity and Fixed O&M
- 2. Fuel
- 3. Variable O&M
- 4. Variable Environmental
- 5. Allowances for congestion and losses
- 6. "Replacement" energy
 - For base load resources, the amount of energy needed to adjust all resources to the same 100% capacity factor
 - Priced at projected 7x24 projected market energy rates for each year



7. Adjustment for reserve capacity cost savings associated with one system firm resource proposal received.

The quantitative portfolio analyses also evaluated the following costs and considerations.

- 1. Simulation of resource dispatch to serve load considering:
 - > Historical hourly load shape adjusted for forecast monthly load
 - Resource energy costs: fuel price or energy price, average operating heat rate, variable O&M, emission costs
 - Resource availability adjusted for forced outage rates, seasonal scheduled outages
 - SEPA scheduled for peak load
 - Must-run dispatch requirements
- 2. Fixed costs considering:
 - Generating resource fixed costs: proposed capacity price, fixed O&M, natural gas reservation costs for combined cycle units
 - Market capacity price used for generic combustion turbine (CT) purchases, LD firming capacity, incremental capacity purchases needed to meet reserve requirements, and compensation for use of certain member resources (e.g., SEPA allocations and Paris diesel units)
- 3. Other Costs
 - > KyMEA administration and management costs, including power marketing costs
 - > MISO congestion and losses included for applicable resources
 - > Transmission and ancillary service cost allowances made consistently for the portfolios

Initial conclusions were drawn and then key fuel cost, market price, energy availability, and other assumptions were tested to determine if or the extent to which certain alternative assumptions would impact the initial conclusions reached from the portfolio analysis.

The most advantageous alternatives based on the quantitative analyses of the projected cost of power were then compared on a qualitative basis considering the following aspects of the RFP evaluation criteria to determine if the ranking of the proposals would be impacted.

- 1. Uncertainties regarding the cost of resource projected in the quantitative analyses
 - Price certainty
 - extent to which proposer was willing to fix the price of capacity
 - extent to which the proposed capacity price was based on the Proposer's costs
 - □ rights reserved by the Proposer to change the price prior to entering a PPA
 - extent to which factors that would impact the energy price align with factors that would impact KU's energy costs
 - impact of the proposal on KyMEA's competitiveness versus KU, the market, and other suppliers
 - Uncertainties regarding exposure to CO2 and other environmental legislation, in absolute terms and relative to KU



- > Exposure and uncertainties as to the cost of congestion and losses
- 2. Flexibility and optionality afforded to KyMEA under the proposal
 - > Day ahead and intraday energy scheduling flexibility
 - > Flexibility as to amounts of capacity to be purchased
 - Rights to extend the term at KyMEA's option
- 3. Uncertainties concerning performance and availability
 - Historical performance of assets
 - Resource availability guarantees
- 4. Uncertainties concerning transmission arrangements
- 5. Uncertainties concerning commencement of the transaction by May 1, 2019
- 6. Creditworthiness
- 7. Location of the Proposer's resources.

Key Assumptions regarding Fuel and Market Prices

Projected Market Prices for Power and Fuel

We have relied on the forecasts and projections of power market prices and fuel prices provided to us in late 2015 under a subscription with an internationally recognized provider of data and forecasts to the electric power and other industries. Then, we further compared the price projections used to more recent releases and determined that the subsequent changes to the market and fuel price projections would not impact the conclusions and recommendations set forth herein.

We compared the prices used to fixed market energy prices proposed in response to KyMEA's RFP and determined that the coal and natural gas prices we have used relate reasonably to those proposed market based prices for energy.

Projections of Coal Prices

The projections of coal prices we used reflect that market-indicative coal forecasts represent forward curves for spot-traded instruments, analogous to a strip of contracts:

- shorter tenures are driven by the observed/assessed market
- Ionger tenures (years 3-20 for physically assessed markets and years 5-20 for markets with NYMEX futures) driven by fundamental estimates of mining costs, accepted returns to capital, regional productive capacity, and forecast supply and demand.
- For the long-tenured portion of the curve, the forecasts reflect prices for specific coal markets, and define the remaining markets via historical spreads. The projections are based on the principle that fuel cost projections that should be used are those that are believed to be the most representative of the underlying basis for current forward market prices of fuels and energy.

During 2015, a major shift has occurred in expectations regarding coal prices and the other prices of fuels. As a result, we expect there are more widely differing projections and expectations regarding coal prices than has been the case for the past few years.



Analyses of Proposals

As noted above under "Evaluation Process and Approach," the first step in the evaluation process was to screen proposals that would be appropriate to provide capacity and energy for KyMEA's base load requirements.

As indicated in Figure 3 below, proposals from Coal Providers 1 and 2 and Combined Cycle Provider 1 are projected to have very close to the same level of costs over the 10 year period. Other comparable proposals received were evaluated to have higher projected costs over the 10 year period. (See Figure 3 below.)

Cost Ranking of Base Load Resources Based on 10 Year Levelized Evaluated Costs		
Ranking Group		
Group 1: Lowest Cost	 Coal Provider 1 Coal Provider 2 Option 2 Combined Cycle Provider 1 	
Group 2: Higher Cost	Coal Provider 2 Option 1	
Group 3: Highest cost	 Coal Provider 3 Option 2 LD Provider 1 Coal Provider 4 LD Provider 2 Coal Provider 5 	

Figure 3 - Cost Ranking of 10 Year Base Load Resources

The proposal from Coal Provider 1 was determined to be more advantageous for KyMEA than the proposal from Coal Provider 2 – Options 1 and 2 for KyMEA's long-term coal-fueled base load resource based on the following qualitative considerations.

- 1. More favorable transmission arrangement, with less exposure to uncertainty as to the level of costs that would be incurred due to congestion and losses in MISO;
- 2. More favorable assurances regarding energy availability and day-ahead and intraday scheduling flexibility;
- 3. More favorable annual cost profile due to fixed capacity charge;
- 4. More favorable CPP risk exposure;
- 5. More favorable coal price risk exposure;
- 6. More favorable credit rating of counterparty; and



7. Favorable options regarding term of the transaction.

Next, the proposals provided for the supply of KyMEA's intermediate load were screened to determine which proposals in that category were attractive. As indicated below in Figure 4, the proposal from Combined Cycle Provider 1 was determined to be a cost effective option for the service of KyMEA's intermediate load requirements.

Cost Ranking of Intermediate Resources Based on Levelized Evaluated Costs	
Ranking Group	
Group 1: Lowest Cost	Combined Cycle Provider 1 – 10 Year Term
Group 2: Higher Cost	LD Provider 3 Option 1 – 4.5 Year Term
Group 3: Highest cost	LD Provider 4 Option 1 – 5 Year Term

Figure 4 - Cost Ranking of Intermediate Resources

In addition to being more cost effective, the proposal from Combined Cycle Provider 1 was determined to be more attractive to KyMEA than the other proposals to provide resources for KyMEA's intermediate load based on the following qualitative considerations.

- 1. More flexibility as to scheduling the output of the resource (other options would require that KyMEA take strip of a specified amount of energy 16 hours per day on non-holiday workdays);
- 2. More favorable fuel price risk profile for KyMEA relative to KU's fuel price risk profile;
- 3. More flexibility to schedule all of the available output of the combined cycle resource based on levels of market prices in MISO and other adjacent market areas; and
- 4. Longer term transaction with favorable total levelized costs relative to shorter term transactions.

Supplemental analyses indicated that the pricing offered by Combined Cycle Provider 1 reflects the economies of scale associated with larger combined cycle resources. In addition, the duct firing capability of the proposed plant would provide attractively priced peaking capacity to KyMEA.

KyMEA's goal of establishing a portfolio that would remain competitive under a wide range of future conditions with respect to fuel prices and environmental policy dictates that KyMEA's initial foundational portfolio should have a reasonably balanced mix of coal and natural gas fueled resources. Accordingly, it was determined that the proposals provided by Coal Provider 1 and Combined Cycle Provider 1 would result in a reasonable balance of fuels and offer the opportunity for KyMEA to adapt its mix of fuels



depending on the actual relative price of natural gas and coal and other energy cost considerations that occur in the future.

The generation project on which the proposal of Combined Cycle Provider 1 is based is a proposed project; it is not in service at this time and is not yet under construction. The proposal of Combined Cycle Provider 1 is contingent on obtaining commitments from various parties to purchase approximately 400 MW (approximately 50%) of the 789 MW total design capacity of the resource under terms and conditions acceptable to the project developer. The proposal indicates that, after those commitments are obtained, the project could be constructed within a 3 year period. The purchase KyMEA is considering from this resource on behalf of the AR Members and a purchase being considered for or by OMU could comprise approximately 50% or more of the commitment needed to achieve the required 400 MW commitment level.

The proposal of Combined Cycle Provider 1 specified that KyMEA and other purchasers could elect to commence 10 year transactions at any time within a window from commercial operation of the facility through December 2023. As evaluation of proposals proceeded, KyMEA determined that it would be advantageous, from a project availability risk mitigation standpoint, for KyMEA to elect to commence a purchase from Combined Cycle Provider 1 not earlier than June 2022, in accordance the flexibility provided in that proposal.

Cost Ranking of Base Load Resources Based on 3-5 Year Levelized Evaluated Costs		
Ranking Group		
Group 1: Lowest Cost	Coal Provider 2 Option 3	
Group 2: Higher Cost	LD Provider 3 Option 2	
Group 3: Highest cost	 LD Provider 1 Option 2 LD Provider 4 Option 2 LD Provider 1 Option 3 Coal Provider 6 	

Accordingly, proposals to provide capacity and energy for the 3 years prior to June 2022 were compared to identify the most attractive short-term options available to KyMEA as shown below in Figure 5.

Figure 5-Cost Ranking of 3-5 Year Base Load Resources

The 3 year proposal from Coal Provider 2 - Option 3 was determined to be cost effective as compared to short-term options provided by other proposers. Moreover, subsequent portfolio analyses indicated that substituting the Coal Provider 2 - Option 3 resource into KyMEA's portfolio for the Combined Cycle Provider 1 resource until June 2022 would result in minimal impact on KyMEA's projected cost of power during that period. Therefore, the Coal Provider 2 – Option 3 proposal provides to KyMEA the option to



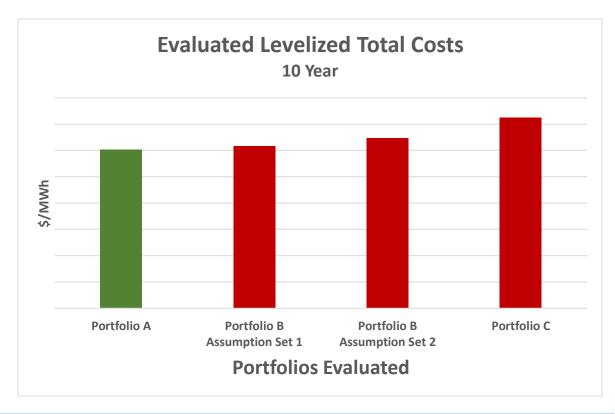
mitigate the risk of delays in commitments to or construction of the Combined Cycle Provider 1 generation project, without cost to KyMEA.

In addition to being the lowest cost alternative in that time period, the Coal Provider 2 – Option 3 proposal is more attractive than other short term proposals to KyMEA because of the following qualitative considerations.

- 1. More favorable transmission arrangement in that Coal Provider 2 commits to deliver to the LGE/KU transmission system, which avoids uncertainty as to the level of costs that would be incurred due to congestion and losses in MISO and uncertainties related to obtaining firm transmission service from MISO by May 1, 2019;
- 2. More favorable assurances regarding energy availability and flexibility regarding day-ahead and intraday scheduling;
- 3. More price certainty due to fixed annual capacity charges; and
- 4. No exposure to CPP costs or other unanticipated costs that might result from changes in environmental or other laws (i.e., Coal Provider 2 has proposed for this Option 3 proposal to commit to proposed pricing regardless of CPP implementation or other changes in law that may occur).

As noted above under "Evaluation Process and Approach," the final step in the evaluation process was to compare and contrast portfolios of resources available to KyMEA through May 2029.

As shown in Figure 6 below, Portfolio A, which consists of resources proposed by Coal Provider 1, Coal Provider 2 (Option 3), and Combined Cycle Provider 1, existing Member Resources, and assumed





purchases of peaking capacity and energy, is evaluated as having the most [?] favorable projected costs over the 10 year period from May 2019 through May 2029.

Figure 6 - Evaluation of Portfolios

Portfolio B is similar to Portfolio A in that it includes coal and combined cycle resources. However, in Portfolio B, a purchase from Coal Provider 3 (Option 1) is substituted in the short term for purchases from Coal Providers 1 and 2. In the longer term, the purchase from Coal Provider 3 and additional purchases from Combined Cycle Provider 1 are substituted for the purchase from Coal Provider 1. Two analyses were prepared for Portfolio B to assess the potential impact of uncertainties regarding the cost and availability of coal capacity and energy under the Coal Provider 3 proposal.

Portfolio C is based on a proposal by LD Provider 3 to provide energy to match the load of KyMEA's members for the period through May 2029 under an LD energy only contract.

LD Provider 3 also provided a similar proposal for an initial 3 year period, which was determined not to be attractive to KyMEA. Another proposer provided a cost of service based proposal to match approximately $1/3^{rd}$ of the load of KyMEA's members for a limited period through December 2021. That proposer provided projections of the costs of that service, but no commitments with respect thereto. That proposal was determined not to be attractive to KyMEA based on its anticipated costs, anticipated adverse impact of the cost of the remaining portion of KyMEA's portfolio, and the uncertainties KyMEA would face at the end of that short-term transaction.

In addition to the projections of lower costs, Portfolio A is more advantageous to KyMEA than Portfolio B based on the following qualitative considerations.

- 1. More certainty concerning cost of the coal resources in the portfolio;
- 2. More certainty that the coal resources in the portfolio will be available for the term of the transaction;
- 3. More favorable assurances regarding energy availability and more flexible day-ahead and intraday scheduling for coal resources;
- 4. More favorable annual cost profile due to fixed capacity charge proposed by Coal Provider 1;
- 5. More favorable fuel price risk portfolio due to the higher level of coal capacity purchased in Portfolio A;
- 6. More favorable CPP risk exposure with respect to Coal Provider 1; and
- 7. Favorable options regarding term of the transaction with Coal Provider 1 and the amounts of capacity to be purchased during the transaction.

In addition to the projections of lower costs, Portfolio A is more advantageous to KyMEA than Portfolio C based on the following qualitative considerations.

1. More favorable fuel price risk portfolio due to the mix of fuel included in Portfolio A and the fact that under Portfolio C the price of energy would be fixed at some future point based on market conditions; and



2. Less exposure to market conditions because Portfolio A would involve resources with staggered contract terms (Portfolio C would expose all of KyMEA's load to market conditions upon termination of a contract for all of KyMEA's load in 2029).

Conclusions and Recommendations

We have concluded that three (3) proposers are most advantageous to KyMEA based upon the evaluation factors set forth in the RFP, assuming that negotiation of power purchase agreements having terms and conditions acceptable to KyMEA can be successfully completed and the satisfaction of other contingencies can be achieved. Those three proposers are:

Reference to Proposal	Proposal
Coal Provider 1	Big Rivers Electric Corporation's proposal to sell power from its system of resources for a 10 year period from June 2019 through May 2029, at a capacity price fixed for the term of the transaction and an energy price determined based on the cost of energy generated from its D.B. Wilson Generating Station.
Coal Provider 2 (Option 3)	Dynegy's proposal through its Illinois Power Marketing Company subsidiary ('Dynegy') to sell power from its coal-fired units 1, 2, and 3, totaling approximately 501MW located at the Electric Energy Inc. plant near Joppa, Illinois ("EEI") from June 2019 through May 2022, at a capacity price specified in the proposal each year and an energy price determined based on the cost of energy generated from those units.
Combined Cycle Provider 1	HenderSun Energy LLC's proposal to sell power from its proposed HenderSun Natural Gas Combined Cycle Plant for a minimum of a 10 year period commencing at a date specified by KyMEA between commercial operation of the facility and December 2023, priced based on specified and escalated annual capacity charges. Fuel would be provided by KyMEA.

These conclusions are based upon the:

- 1. Assumptions and analyses described above and discussed in more detail in closed session;
- 2. Assumption that firm transmission arrangements can be made on a timely basis, which we believe to be a reasonable assumption; and
- 3. The Proposals, and information and commitments gained through follow-up emails, discussions and negotiations with Proposers determined to be reasonably susceptible of being selected for award.

We also anticipate that the transactions will be mutually beneficial to each of the counterparties.



Contracts with these three providers, plus one or more contracts for peaking capacity and energy under competitive pricing and other terms, will provide the foundation of a portfolio for KyMEA that is consistent with the goals and objectives established by the KyMEA AR Members and summarized above.

More specifically, the portfolio would have the following key characteristics.

- 1. In the first few years after May 1, 2019, the cost of KyMEA's portfolio is projected to be competitive with projected market price levels and lower in costs than the projected cost of service from KU. Although most energy would be provided from coal resources during the first 3 years, KyMEA would have little if any exposure to CPP costs during this period.
- 2. In the longer term, KyMEA's initial portfolio would have a mix of coal and natural gas resources that would be similar to, but less dependent on coal and more flexible than, KU's portfolio. In addition, during this period, KyMEA would have the flexibility to adjust the scheduling of coal and combined cycle resources taking into account relative shifts in the prices of natural gas and coal to remain competitive with KU under a wide range of future fuel price conditions and CPP implementation scenarios.
- 3. KyMEA would have the scheduling flexibility necessary to incorporate very substantial amounts of renewable energy if the KyMEA Board determines that approach to be in the best interest of the AR Members, or if one or more AR Members request that KyMEA provide additional renewable energy resources and are willing to bear any related increases in energy costs.
- 4. KyMEA would have substantial flexibility to adapt the portfolio if future loads are lower than now projected.
- 5. The short term purchase from Coal Provider 2 (Option 3) provides additional flexibility for KyMEA to pursue other alternatives for a combined cycle resource should the project on which Combined Cycle Provider 1's proposal is based does not proceed forward to construction.
- 6. The coal and combined cycle resources under contract would be priced at levels that reflect the economies of scale inherent in larger generation projects and at levels that reflect current competitive prices for coal and combined cycle resources.
- 7. The terms of the three contracts are anticipated to be staggered. The contract with Combined Cycle Provider 1 would in effect replace the short term contract with Coal Provider 2. The end of the initial terms of the contracts with Coal Provider 1 and Combined Cycle Provider 1 are also anticipated to be staggered (2029 for Coal Provider 1 and 2032 for Combined Cycle Provider 1). The contract with Coal Provider 1 is anticipated to include an option to extend the transaction beyond the initial 10 year term. As a result, KyMEA's market risk associated with procuring future power supplies when these initial contracts terminate would be mitigated.
- 8. KyMEA's portfolio is projected to remain competitive with KU under a wide range of future conditions over the period through 2029 because:
 - a. KyMEA's and KU's energy costs should be impacted to a similar extent by variances from today's projections and expectations in the future prices of natural gas and coal,
 - b. KyMEA's costs should be impacted to a similar or lesser extent than KU's costs, should the CPP be implemented in the future along the lines currently anticipated,



- c. KyMEA's and KU's costs should have similar relatively low exposure to variances in the future market prices for capacity and energy established in the MISO and PJM markets, and
- d. KyMEA's projected cost of capacity would be significantly lower than the projected average costs of KU's capacity resources.
- 9. The contracts with the recommended providers are expected to provide options for KyMEA beyond 2029 as follows.
 - a. For the period after 2029, KyMEA is expected to have the option, but not the obligation, to continue the purchase from Coal Provider 1 for up to another 10 years at pricing based on a formula specified in the contract, which may be important to assuring KyMEA's portfolio costs remain competitive after 2029.
 - b. KyMEA may have the option to enter a contract for longer than 10 years, negotiate extension opportunities, or convert its power purchase agreement from Combined Cycle Provider 1 to an equity position, which would make that combined cycle resource available to KyMEA well beyond 2029.

Following KyMEA's determination that BREC and Dynegy were reasonably susceptible of being selected for award, and working with KyMEA's legal counsel, Spiegel & McDiarmid LLP under the guidance and direction of the KyMEA Board and AR Members, we have negotiated provisions of PPAs with those counterparties to implement the proposed transactions. During those negotiations, the counterparties have honored their proposals and have agreed to include provisions in the PPAs that enhance the attractiveness of the transactions to KyMEA.

KyMEA has also determined that Combined Cycle Provider 1 is reasonably susceptible of being selected for award. Discussions have begun with the provider and other interested parties to develop a PPA related to the resource proposed by Combined Cycle Provider 1. Should discussions with Combined Cycle Provider 1 not proceed in a fashion that is acceptable to KyMEA, KyMEA would have options to consider other short or long term alternative resources for inclusion in KyMEA's portfolio, including an option in the PPA with Coal Provider 1 to increase the amount of capacity purchased beginning June 2022.

Respectfully Submitted, nFront Consulting LLC