

July 19, 2016

A Board meeting of the Electric and Water Plant Board of the City of Frankfort, Kentucky, was held at Farmers Bank and Capital Trust, located at 125 W. Main Street, Frankfort, Kentucky, on Tuesday, July 19, 2016 at 5:00 p.m.

ATTENDANCE:

Ralph Ludwig, Board Chair
Rick Pogrosky, Vice Chair
Dr. Scott Green, Secretary/Treasurer
Anna Marie Pavlik Rosen, Board Member
Walt Baldwin, Board Member
James Liebman, Board Attorney
Herbbie Bannister, General Manager
David Billings, Chief Water Engineer
Bill Briscoe, Water Dist. Supt.
Harvey Couch, Marketing and Video Coordinator
David Denton, Finance Director
Sharmista Dutta, Water Engineer
Vent Foster, Chief Electrical Engineer/Asst. GM Operations
Monique Gilliam, Customer Service Director
Dana Goodlett, Cable Installation and Process Manager
Adam Hellard, Broadband/Security Manager
John Higginbotham, Asst. GM Cable/Telecommunications
Scott Hudson, Electric Supt.
Casey Jones, Asst. IT Director
Karl Pitzer, IT Director
Kim Phillips, Safety Director
Hance Price, Staff Attorney/ Asst. GM Administration
Mark Redmon, Support Services Director
Chris Riddle, WTP Superintendent
Tonya Ritchie, Administrative Assistant
Julie Roney, Asst. WTP Superintendent
Dianne Schneider, HR Director
Alan Smith, Asst. Water Superintendent
Glenn Waldrop, Public Information Officer
Zach Hubbard, Cable 10 Videographer
Seth Littrell, State Journal Reporter
John Painter, nFront Consulting, LLC
Fred Haddad, Jr., nFront Consulting, LLC
Charlie Musson, Attorney, Rubin & Hays
Brown Thornton, NewGen Strategies & Solutions, LLC
Tom Trauger, Attorney, Spiegel & McDiarmid, LLP

AGENDA

The Agenda for the Board Meeting was received and entered into the Minute Book as follows:

JULY 19, 2016 BOARD MEETING AGENDA

1. **Action Item:** Consider Approving Minutes for the June 21, 2016 Board Meeting.
2. **Action Item:** Consider Approving Minutes for the June 30, 2016 Special Board Meeting.
3. **Informational Item:** Presentation on the Proposed Contract between Frankfort Plant Board and Kentucky Municipal Energy Agency (KyMEA) to Provide All-Requirements Power Supply Services.
4. **Informational Item:** Public Comment Period.

5. **Informational Item:** Departmental Reports:

- Website Customer Comments
- Cable Dept.
- Customer Service
- Electric Dept.
 - SEPA
- KyMEA
- Safety
- Water Distribution
- Water Treatment Plant
- Administration Building
- Headend

6. **Action Item:** Consider Adoption of Policy to Include Open Source Software Options in All Future New Software Acquisitions.

7. **Action Item:** Consider Removal of Funding for Virtualization Software (Nutanix) Pending Evaluation of Open Source Options.

8. **Action Item:** Consider Award of Bid Invitation #SM-71 for the Sale and Removal of Scrap Metals to ISA Recycling.

9. **Action Item:** Consider Approving a Contract with Comer Research Consultants, LLC. to Perform a Customer Service Survey at a Cost of \$19,900.

10. **Old & New Business:**

11. **Informational Item:** General Manager's Comments.

12. **Request Permission to have Chair call for a Closed Session** pursuant to KRS 61.810 (1)(c) for the discussion of proposed or pending litigation against or on behalf of FPB; KRS 61.810 (1)(f) for discussions which might lead to the appointment, discipline, or dismissal of an individual employee; and KRS 61.810(1)(b) for the discussion of the future acquisition or sale of real property.

13. **Closed Door Session:**

BOARD ACTION

Mr. Ludwig called the meeting to order. Ms. Ritchie called the roll. She noted five (5) Board members in attendance.

1. **Action Item:** Consider Approving Minutes for the June 21, 2016 Board Meeting.

In discussion, Ms. Rosen stated that she was misquoted regarding her comment on educational efforts under the item for customer outreach items. She stated that her suggestion was to organize educational efforts such as posters and displays and encourage discussion rather than giving away items.

Mr. Pogrotsky moved to approve the minutes for the June 21, 2016 Board meeting with corrections. Mr. Ludwig seconded. Mr. Ludwig called for the vote and the motion passed unanimously.

2. **Action Item: Consider Accepting Minutes of the June 30, 2016 Special Board Meeting.**

Ms. Rosen requested revisions to improve the minutes of the June 30, 2016 meeting. She stated that the minutes should note specifics of the Kentucky Home Performance presentation to include details regarding the type of follow up performed regarding energy efficiency goals, options for renters, solar options, and loan interest rates on funds borrowed through this program.

Mr. Pogrotsky moved to approve the minutes of the June 30, 2016 Special Board meeting with corrections and additions as noted. Ms. Rosen seconded. Mr. Ludwig called for the vote and the motion passed unanimously.

3. **Informational Item: Presentation on the Proposed Contract between Frankfort Plant Board and Kentucky Municipal Energy Agency (KyMEA) to Provide All-Requirements Power Supply Services.**

As you may recall, on September 23, 2013, KU filed a rate case with the Federal Energy Regulatory Commission (FERC) to significantly modify the terms and conditions of FPB's and the other municipals' current power supply contracts. As a result, the Frankfort Plant Board (FPB) as well as other Kentucky municipals gave notice to terminate their contracts with Kentucky Utilities (KU) in April 2014. The termination of the existing contract requires FPB and the other municipals to acquire new electric service and begin taking that service as follows: June 1, 2015 for the Benham Power Board; May 1, 2017 for the City of Paris; and May 1, 2019 for the Frankfort Plant Board and the Cities of Barbourville, Bardwell, Berea, Corbin, Falmouth, Madisonville, and Providence, Kentucky.

On June 16, 2015, the Board approved the Interlocal Cooperation Resolution and Agreement which authorized and established the Kentucky Municipal Energy Agency (KyMEA). Also at that meeting the Board appointed and approved its representative and an alternate to the KyMEA Board of Directors. This action was taken by FPB and eight other municipals in order to realize the benefits from economies of scale in planning, purchasing, selling and operating power supply resources. On November 19, 2015 the Board also conducted a televised, public forum to discuss and inform our community about KyMEA and the progress being made on a new power supply.

Since that time the KyMEA Board and its consultant team have continuously worked to acquire a new energy supply. A number of major elements must be addressed before any new service can begin. Some (but not all) of those elements are identifying and procuring power supply resources, securing transmission service and establishing power delivery contracts between the municipals and KyMEA.

By way of the Kentucky model procurement code, KyMEA has identified key portions of the power supply resources that will be used during the first few years of service and the power purchase agreements (PPAs) are in the final stages of negotiation for those resources. While portions of the power supply portfolio for KyMEA have been established, there are still additional resources and contracts that will need to be worked out in the coming months and years. This resource planning and procurement will be a continuous process for KyMEA as contracts of varying terms and resource types, evolve and expire.

Applications, studies, system modeling and identification of possible upgrades that may be needed are currently underway to establish transmission service to each of the KyMEA members.

As the first step in establishing power delivery contracts between the municipals and KyMEA, the KyMEA Board has approved and is proposing the provided all-requirements contract for FPBs consideration. Staff and our consulting team are presenting the details of the proposed all-requirements contract between FPB and KyMEA as an informational item only at this time. It is expected that staff will propose

approval of the contract at the regular August Board meeting after any questions or concerns that you might identify, have been addressed. Staff and the consultant group firmly believe it is in our community's best interest to become an all-requirements partner in KyMEA alongside the other Kentucky municipals.

Mr. Foster explained the history of the formation and establishment of KyMEA and introduced the power supply consultants and attorneys as follows: John Painter, nFront Consulting, LLC, Fred Haddad, nFront Consulting, LLC, Charlie Musson, Rubin & Hayes, Brown Thornton, NewGen Strategies & Solutions, LLC, and Tom Trauger, Spiegel & McDiarmid, LLP.

Mr. Painter reviewed the presentation which is attached to and incorporated as part of the minutes of this meeting.

Mr. Painter explained the all requirements power supply contract between KyMEA and its members, he noted the names of the ten (10) members, explained the power supply business areas, the proposed arrangements and benefits to KyMEA members, rate components and structure, benefits of member resources, KyMEA staffing and organization, objectives and goals, and the power supply portfolio. He advised that the portfolio would allow the members to maintain competitive pricing and stability in a volatile market as well as provide flexibility to make adjustments as needed with market and legislation changes.

In response to Mr. Baldwin, Mr. Painter explained the scenarios in which KyMEA prices could increase more quickly than those of Kentucky Utilities. He further noted that KyMEA also had the flexibility to make changes in the portfolio to mitigate those changes to allow FPB's electric rates to remain competitive.

In response to Mr. Baldwin, Mr. Painter explained the flexibilities within the power contracts to adjust capacity amounts to allow for changes in load capacity and demand. He further explained scenarios in which renewables may become more valuable in the future and the manner in which capacity purchases can be adjusted with the power contracts. He explained direct load control and capacity savings to the members.

Mr. Painter further explained the manner in which a member would receive the total benefit of improvements made within their system to reduce load capacity and demand. He further explained the benefit and efficiencies to FPB by its partnership with KyMEA and its members.

In response to Mr. Baldwin, Mr. Painter explained plans to locate and import renewable energy into the portfolio for one, a few or all of the KyMEA members wanting to participate. Mr. Painter further explained that no dispatchable renewables came forward in the first round of requests from KyMEA.

In response to Mr. Baldwin, Mr. Painter explained the deadlines for which final energy decisions need to be made pursuant to the contracts.

In response to Ms. Rosen, Mr. Painter advised that the depressed power markets were due to a surplus of capacity and extremely low fuel prices. He further advised that capacity was projected to increase as coal plants are retired and fuel prices increase in the coming years.

Mr. Painter advised that renewables would need to be feathered into the portfolio over time. He advised that the focus at this time is to get the all requirements members under contract in order to finalize and continue with purchases.

In response to Ms. Rosen, Mr. Painter stated that he projected that Owensboro Municipal Utility (OMU) would become an all requirements member in the future and advised that there were other entities which had expressed interest in joining as other coal units are retired.

In discussion, the consultants explained that the contracts afforded members the opportunity to move a portion of the portfolio to the market day to day to allow an economic advantage. Mr. Trauger advised that the three power contracts would be between KyMEA and the power companies. He further explained the process of drafting and developing the all requirements contract and that FPB representatives were involved in the process and negotiations.

4. **Informational Item: Public Comment Period**

Mr. Ludwig opened the floor for public comment.

Mr. Skip Hunt addressed the Board and Staff regarding his dissatisfaction with the cable broadband service. He advised that he would like to see the Board and FPB management address the customer base with FPB's long term and short term strategies to improve the infrastructure and bandwidth.

5. **Informational Item: Departmental Reports:**

Website Customer Comments: Mr. Higginbotham stated that there were three (3) customer comments which were provided to the Board.

Cable: Mr. Higginbotham reviewed graphs regarding outages and customer numbers for the cable/telecommunications department. He further discussed issues and resolutions with the switchover in the telephone department and the international calling feature.

Customer Service: Ms. Gilliam reviewed and discussed graphs presented to the Board. She explained new data collected to enable customer service to set metrics for customer service representatives and the department as a whole to better serve the customer needs and streamline services. In response to Mr. Baldwin, Ms. Gilliam advised that the department was working with IT to address and implement features for self-service through the customer portal. In response to Mr. Ludwig, Ms. Gilliam advised that customers will not have a choice of billing due date with cycle billing change.

Ms. Gilliam was asked to present her action item at this point in the meeting.

9. **Action Item: Consider Approving a Contract with Comer Research Consultants, LLC. to Perform a Customer Service Survey at a Cost of \$19,900.**

In June 2016 the Board approved the FPB 2016-2017 fiscal year budget which included \$20,000 to perform a Customer Service survey. The survey will measure the overall performance of the members of the Customer Service Department. This survey will assist in determining how well the staff is meeting the expectations of the FPB customers with regard to delivering "good customer service". The survey will further assist in better understanding customers' pain points when it comes to customer service and assess whether those are issues directly impacted by, and/or attributed to the Customer Service Department.

Staff has met with Leanna Comer of Comer Research Consultants, LLC. and obtained a cost of \$19,900 to conduct a comprehensive transaction survey over an approximate 6-month period, randomly selecting samples of customers who have contacted the Customer Service Department the previous month. The sample size of approximately 500 will allow for data based on service line, type of transaction, customer service representative and customer demographics to better identify specific opportunities for improvement.

Based in Winchester, Kentucky, Comer Research Consultants, LLC, was formed in January 2012. Prior to the launch of her own firm, Leanna Comer served as the president of research for Preston-Osborne, a marketing communications and research firm. During her tenure at Preston-Osborne, she managed multiple projects commissioned by the Frankfort Plant Board, including a feasibility study regarding the implementation of fiber optic service and a cable channel preferences survey.

Additionally, in 2014, Comer Research conducted a broadcast channel preferences survey on behalf of the Frankfort Plant Board.

Staff recommends that the Board approve the agreement with Comer Research Consultants, LLC. as a professional services contract. The Assistant GM – Administration has reviewed the agreement and it meets with his approval.

Ms. Gilliam explained budgeted funds for the survey as well as specifics of the survey. She explained that customers would be chosen at random from the pool of customers who had interacted with any customer service representative and explained the data which would be collected.

In response to Mr. Baldwin, Mr. Bannister stated that this effort is tied to the goal set for the general manager for implementing continuous improvement in customer service. Mr. Bannister advised that this survey would be utilized to set a benchmark and that additional surveys were being planned. He further advised that a more in depth plan for continuing improvements in customer service is in the planning stages. Mr. Price further detailed customer surveys planned for a benchmark.

In response to Mr. Ludwig, Ms. Gilliam stated that the survey will ask specific questions and will deliver data based on each line of business, the issue being addressed and how the customer service representative addressed the situation.

In response to Ms. Rosen, Ms. Gilliam stated that FPB had utilized Comer Research in the past and explained the work performed.

In response to Mr. Baldwin, Mr. Price explained the procurement details.

Dr. Green moved to approve the contract with Comer Research Consultants, LLC. to perform a customer service survey at a cost of \$19,900. Mr. Pogrotsky seconded. Mr. Ludwig called for the vote and the motion passed unanimously.

At this point in the meeting, the Board resumed with Departmental Reports.

Electric Dept.: Mr. Hudson explained graphs for the electric department on reliability. Mr. Hudson advised that FPB sent eight (8) employees and four (4) trucks to Owensboro for a weekend after a storm to assist with power restoration efforts.

SEPA: Mr. Bannister explained SEPA graphs and noted that FPB is not earning a profit on the market with SEPA energy at this time. He further explained credits FPB would receive from KyMEA for SEPA under all requirements contract.

Safety: Ms. Phillips noted two (2) OSHA recordable injuries and stated that they were both strains and sprains injuries. She further noted one (1) vehicle accident in which a media services van scraped a concrete post at the service center with minor vehicle damage.

Water Distribution: Mr. Briscoe introduced Alan Smith as the new Water Distribution Superintendent upon Mr. Briscoe's retirement in a few weeks. He noted six (6) new services, six (6) main breaks and three (3) outages. He advised that all outages were due to the main breaks.

Mr. Pogrotsky expressed his gratitude for the fine job completed by water distribution staff with the issue at the trailer park. He further noted that the residents were very complimentary of the efforts of FPB and its staff. Mr. Foster expressed his appreciation for Mr. Briscoe and his service to FPB and the Frankfort community.

Water Treatment Plant: Mr. Riddle reviewed the Water Treatment Plant report and stated that FPB produced more than 263 million gallons of potable water for the month of June for an average daily production of 8.8 million gallons per day. He further discussed river conditions including flow and temperature.

Administration Building: Ms. Dutta discussed activities at the administration building site. She noted significant progress, upcoming work to be completed, status with field inspector and discussed photos provided to the Board.

Headend Building: Mr. Higginbotham explained progress with switchover and move of infrastructure to the new headend building and upcoming work to be completed.

6. **Action Item: Consider Adoption of Policy to Include Open Source Software Options in All Future New Software Acquisitions.**

Open-source software is computer software with its source code made available with a license in which the copyright holder provides the rights to study, change, and distribute the software to anyone and for any purpose. Open-source software may be developed in a collaborative public manner. Open-source software is the most prominent example of open-source development.

The open-source model, or collaborative development from multiple independent sources, generates an increasingly more diverse scope of design perspective than any one company is capable of developing and sustaining long term. A report by the Standish Group (from 2008) states that adoption of open-source software models has resulted in savings of about \$60 billion per year to consumers.

Examples of open source projects

OpenADR

<http://www.openadr.org>

Demand Response (DR) programs help utilities maintain grid reliability and enable customers to realize significant value. Unfortunately, existing proprietary solutions add unnecessary cost and complexity. The OpenADR Alliance was created to standardize, automate and simplify DR to enable utilities to cost-effectively meet growing energy demand, and customers to control their energy future. Together we are creating the future of demand response today.

OpenRDA (Leverages Open Source Components)

<https://openrda.com>

OpenRDA is an ERP system designed specifically to meet the unique requirements of governmental fund accounting for people working at small to mid-sized organizations. The Tools Based Development Model allows for a great deal of customization without any costly custom programming. This allow the software to be tailored to the needs of each site and, in many ways, to each person using the software. For each site is unique and each person is gifted differently.

RDA Systems, Inc. is a privately held, 2nd generation family business. We have been serving small to medium size local governments and K12 school districts since 1980 by providing powerful ERP fund accounting software (OpenRDA) and services. We are a small (20 employee) company and prefer it that way. This allows us to provide very personalized humble service to the people using OpenRDA ERP software. We are strong advocates of Open Source software and use it where it makes sense. People using our software appreciate that because it saves them money that they can invest in other important strategic initiatives.

Open Energy Monitor

<https://openenergymonitor.org/emon>

A project to develop open-source energy monitoring tools to help us relate to our use of energy, our energy systems and the challenge of sustainable energy.

OpenNMS

<http://www.opennms.org>

OpenNMS is the world's first enterprise grade network management application platform developed under the open source model.

PacketFence

<https://packetfence.org>

PacketFence is a fully supported, trusted, Free and Open Source network access control (NAC) solution. Boasting an impressive feature set including a captive-portal for registration and remediation, centralized wired and wireless management, powerful BYOD management options, 802.1X support, layer-2 isolation of problematic devices; PacketFence can be used to effectively secure networks small to very large heterogeneous networks.

General Open Source References

Open Source Geospatial Software:

http://www.eclipse.org/community/eclipse_newsletter/2014/december/article3.php

Mr. Baldwin provided Board members with a proposed open source software policy for consideration.

In discussion Mr. Pitzer advised that staff does consider open source software when researching software purchases. He noted that Staff does not always come before the Board with every software purchase. He advised that it depends on the cost and availability of software. Mr. Pitzer explained open source software currently utilized by FPB. He advised that Staff is continually researching open source options and do not show bias to any options.

Dr. Green moved to consider adoption of policy to include open source software options in all future new software acquisitions. Mr. Baldwin seconded. Dr. Green stated that his motion does not include bringing renewals to the Board.

In discussion, Mr. Pogrotsky expressed his concern with bringing all renewals to the board for approval. Mr. Baldwin stated that the policy was not meant to be onerous and that it would be more appropriate to interpret the policy in a milder way. Mr. Baldwin advised that the goal is for there to be more evaluation on large scale projects. In response to Ms. Rosen, Mr. Pitzer reiterated that Staff already does its due diligence and does not show bias to either commercial or open source options.

Dr. Green withdrew his motion due to the inclusion of presenting renewable licenses to the Board.

Mr. Pogrotsky reiterated his concerns and asked who would determine the level of scrutiny regarding research on this policy. Mr. Baldwin stated that the intent is to provide direction with less restriction and burden at this time. Mr. Pogrotsky stated that he thought he could be happy if the requirement on license renewals was removed. Mr. Ludwig acknowledged his hesitation on the license renewal.

Mr. Baldwin moved to approve the following policy:

When considering new software or hardware systems, Staff will research and consider open source alternatives. Prior to new software or hardware system implementation, an analysis to consider open source alternatives will be presented to the Board. Prior to license renewals, a high level survey will be conducted and those results presented to the Board.

He advised that the research for a high level survey would be to investigate what options are out there.

Ms. Rosen seconded.

Mr. Ludwig called for the vote and the motion passed unanimously.

7. **Action Item: Consider Removal of Funding for Virtualization Software (Nutanix) Pending Evaluation of Open Source Options.**

Mr. Baldwin stated that he would like to see the new open source policy be followed before moving forward with approval of this item.

In response to Mr. Pogrotsky, Mr. Pitzer stated that virtualization software allows multiple servers to run under one hardware appliance. At the request of Mr. Pogrotsky, Mr. Pitzer further reiterated the budgeted cost of the project.

Mr. Baldwin moved to approve the removal of funding for virtualization software pending evaluation of open source options. Ms. Rosen seconded.

In discussion, Mr. Denton stated that budget amendments could be completed for future funding needs on this project.

Mr. Ludwig called for the vote and the motion passed with a 4-1 vote. Mr. Ludwig, Mr. Pogrotsky, Mr. Baldwin and Ms. Rosen voted "Yes" and Dr. Green voted "No".

8. **Action Item: Consider Award of Bid Invitation #SM-71 for the Sale and Removal of Scrap Metals to ISA Recycling.**

Background – FPB sells its operational generated scrap metals on an annual contract. The scrap company provides a monetary deduction meaning that they keep that dollar amount per pound of metal that they pick up from FPB. The only exception is miscellaneous metals; it is sold per gross ton (2,240 lbs per gross ton). The price that FPB receives fluctuates with the American Metals Market, Cincinnati Market. For example, if aluminum is worth \$4 per pound and the scrap company's monetary deduction is \$0.32 per pound, FPB would receive \$3.68 per pound picked up by the scrap company. The scrap vendor provides the luggers to FPB and picks them up when they are full. They then send payment within 15 days with a copy of the Metal Market Journal, Cincinnati prices for the day prior to the pickup.

Staff prepared the bid this year and sent it to ten vendors and received four bid responses. The bid is written on an "all or none" basis. Staff recommends awarding to ISA Recycling as they offered the lowest monetary deduction for each metals category. After deductions, FPB received \$4,238 for the sale of scrap metal in the last fiscal year.

Mr. Redmon explained the bidding process and amounts currently received by FPB for the sale of scrap.

Mr. Ludwig moved to award bid invitation #SM-71 for the sale and removal of scrap metals to ISA Recycling. Mr. Pogrotsky seconded. Mr. Ludwig called for the vote and the motion passed unanimously.

10. **Old & New Business:**

Ms. Rosen discussed the economic position in Frankfort and Franklin County based on her research and in conjunction with the new administration building currently under construction for FPB. She introduced an Invitation to Lease Space for KyWired for 24 employees and suggested that FPB lease an area of the administration building. Ms. Rosen stated that the Board should consider leasing some space in an effort to reduce the overall cost of the new building.

After some discussion, Ms. Rosen moved to consider offering our space to the State to see if they want to adopt any of it to their use. Specifically, putting together a letter to them to say please consider our space when you are deciding what you would like to do next. Mr. Baldwin seconded. Ms. Rosen explained that FPB is not committing at this point, but saying to the State to come and look at the space, see if it would fit your needs, and layout what you think we might consider.

Ms. Ritchie called for the vote and the motion failed with a 2-3 vote. Mr. Baldwin and Ms. Rosen voted "Yes", and Dr. Green, Mr. Pogrotsky, and Mr. Ludwig voted "No".

11. **Informational Item: General Manager's Comments.**

12. **Request Permission to have Chair call for a Closed Session** pursuant to KRS 61.810 (1)(c) for the discussion of proposed or pending litigation against or on behalf of FPB; KRS 61.810 (1)(f) for discussions which might lead to the appointment, discipline, or dismissal of an individual employee; and KRS 61.810(1)(b) for the discussion of the future acquisition or sale of real property.

13. **Closed Door Session:**

With no further business to discuss, Dr. Green moved to adjourn. Mr. Pogrotsky seconded. Mr. Ludwig called for the vote and the meeting adjourned.





ATTEST:



The KyMEA All Requirements Project

*Proposed Arrangements for
the Supply of All Requirements Service
Commencing May 1, 2019*

*Working Together through KyMEA
- the Members' Interlocal Power Agency*

July 18, 2016

Today's Discussion

Objective

Understanding of Main Provisions and Implications of the Proposed All Requirements Power Sales Contracts between Members and KyMEA

Topics

1. Introductions and Background
2. The Proposed All Requirements Power Supply Contract
3. Proposed Arrangements pertaining to Existing Member Resources
4. Management and Operation of KyMEA
5. KyMEA's Initial Power Supply Portfolio

Each KyMEA AR Member is Being Asked to Approve the Proposed All Requirements Power Sales Contract

Members - The Electric Systems Comprising KyMEA

(Alphabetical Listing)

1	Barbourville Utility Commission
2	City of Bardwell
3	Benham Power Board
4	Corbin City Utilities Commission
5	City of Falmouth
6	Frankfort Plant Board
7	City of Madisonville
8	Owensboro Municipal Utilities
9	City of Paris
10	City of Providence

Note: Currently, the All Requirements (AR) Members include all KyMEA Members other than OMU. OMU may become an All Requirements Member at a later date. Other municipal electric systems in Kentucky have expressed an interest in considering KyMEA Membership.

Introductions: Advisors



John Painter
Fred Haddad Jr.
Bob Davis



Rubin & Hays
ATTORNEYS AT LAW

Charlie Musson



Brown Thornton



Tom Trauger
Margaret McGoldrick



Michael Mace

Service to Retail Customers involves Three Business Areas – Only the Power Supply Area is Changing May 1, 2019



* Examples of percentages of total charges to retail customers. Not specific to any KyMEA Member.

Historical



** KU followed by AMP for Paris and Benham, KU for all other AR Members

Beginning May 2019



The Members Targeted Key Benefits -- in Deciding to Form KyMEA

Obtain more cost effective, reliable, and environmentally responsible power supply resources
--- beginning May 1, 2019.

As compared to purchasing wholesale service from KU or other Providers beyond May 2019

- More Affordable Electric Service for Members' Customers
- Much Greater Role for Members in Power Supply Decisions

The Members' Goals can be Realized because Working Together through KyMEA is Expected to have Significant Benefits

Economies of Scale

- Planning
- Contracting
- Administering Programs
- Use of Power Supply Resources

Customer Focused Decisions

by KyMEA's Board

- Resource Plans
- Renewables
- Rates and Charges

Critical Mass

KyMEA will be large enough to:

- Attract significant market opportunities
- Effectively plan future resources
- Evaluate and manage Risks

KyMEA has Focused on Two Key Areas

-- since Formation in September 2015

1. Develop All Requirements Power Sales Contracts

Agreements under which Members would obtain All Requirements service through KyMEA beginning May 1, 2019

2. Assemble Key Resources/ Make related Transmission Service Filings

Identify and contract for key components of a power supply portfolio of resources to serve the KyMEA AR Members beginning May 1, 2019

The Proposed All Requirements Contract

Overview

Provides for All Requirements Power Supply for All AR Members

- Beginning May 1, 2019
- Working Together through KyMEA

Balances Individual and Collective Member Interests

For the Benefit of the Members' Customers

Establishes a Framework for Beneficial Use of Member Resources

- SEPA
- Paris Diesels
- Other

Intended to be Long-lasting Arrangement

- Evergreen Term
- Appropriate 5 year Member Exit Option

The All Requirements Contract

Summary of 7 Key Provisions

1. Provides for KyMEA to Sell and Member to Buy All Requirements Power Supply

- All power and energy needed to service retail and municipal loads of the Member
- And perform other related services requested by its Members and determined feasible and appropriate by KyMEA's Board
- Member commits to take and pay for the power at rates established by the Agency Board of Directors

2. Charges to each Member are determined under a rate schedule approved by the AR Members and the KyMEA Board

- Allows fair and reasonable allocation of benefits and costs to the Members
- Payment due 15 days after invoice
- Member covenants to set retail rates and charges sufficient to meet all obligations of its electric system, including obligations to KyMEA

3. Term of Contract is Evergreen

- Member can terminate on at least 5 years' notice effective on May 31 of a year
- Member must retain continuing obligations after termination for any difference between cost and value of the resources procured to meet canceling Member's loads.

The All Requirements Contract

Summary of 7 Key Provisions (Continued)

4. All key decisions are made by the AR Project Committee of AR Members' Representatives, subject to Approval by the full KyMEA Board

- Power Supply Contracts, rate design and rate levels, and other key policies and procedures
- One Vote per Member; a decision can be rescinded but not made based on a weighted voting process

5. Member Resources are Provided For

- Member has the option to contract with KyMEA for KyMEA to use the Member-Owned Resource as part of the power supply portfolio or market the resource on the Member's behalf
- Credits are provided based on the net value obtained by KyMEA from the resource
- Applies to SEPA, Paris diesels, future resources, direct load control
- Coordination regarding net metering programs
- Provides an avenue for Members to individually develop community solar and other renewable projects if they desire --- as an alternative to doing so collectively through KyMEA

6. No adverse impact on the Member's ability to issue debt

- Member covenants not to incur obligations that are superior to Member's obligation to KyMEA

7. Provides Limited Authorization for KyMEA to issue debt

- Authorizes financing consistent with Prudent Utility Practice to meet liquidity needs and working capital requirements of the All Requirements Project
- Member would not be responsible for Bonds for a Power Supply Resource without the written approval of the Member's Governing Body

The All Requirements Contract

Also addresses the following topics

8. Default

- in the event of failure to pay or perform, or inability to meet financial obligations

9. Dispute Resolution

10. Covenants of the Parties

- Related to performance of contract obligations

11. Future Generation Resource Projects

- In which not all Members Participate (or participation shares are fixed)

12. Other Authorities provided to or by KyMEA

- Member authorizes KyMEA to act as its agent to perform power supply and transmission functions
- Agency authorizes its President and designees to perform the Agency's responsibilities and support AR Project activities, consistent with Board policies

Key Priorities will Impact the Setting of KyMEA's All Requirements Rates

1. Equitable allocation of KyMEA's costs

- Among the AR Members
- Relative to KU formula rates

2. Rate adequacy and stability

- Timely base rate adjustments
- Fuel or purchased power adjustment clause
 - Allows base rate components to change less often
 - Passes though highly variable costs
 - Controls working capital requirements

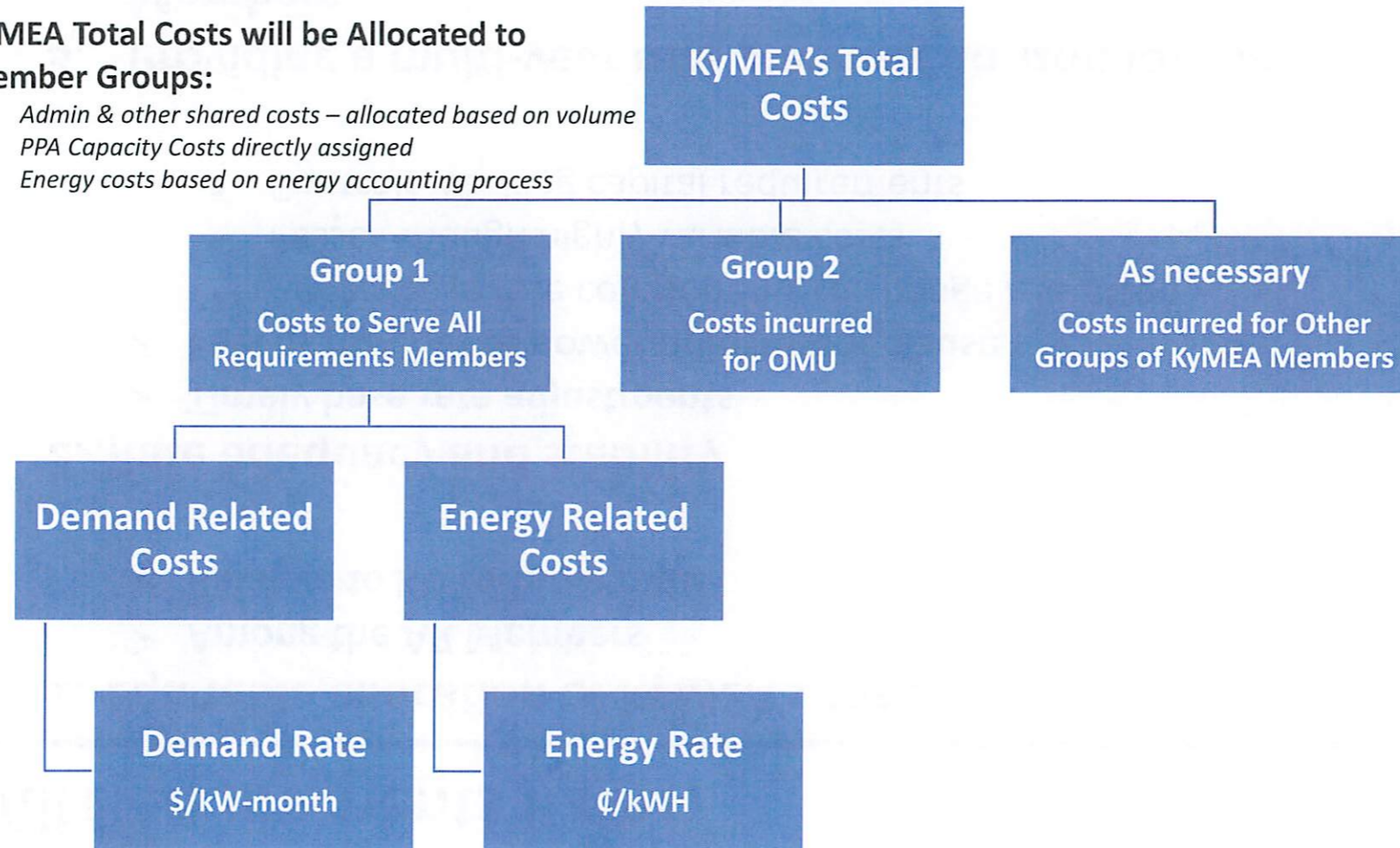
3. Providing a multi-year rate planning horizon for the Members

Fair, Well Established Processes

will be Used by KyMEA's Board to Set All Requirements Rates

KyMEA Total Costs will be Allocated to Member Groups:

1. Admin & other shared costs – allocated based on volume
2. PPA Capacity Costs directly assigned
3. Energy costs based on energy accounting process



KyMEA's All Requirements Charges to Members

- Similar in Form to Current Wholesale Charges from KU,
but Components 1 through 3 are Projected to be Lower in the Future than KU Charges

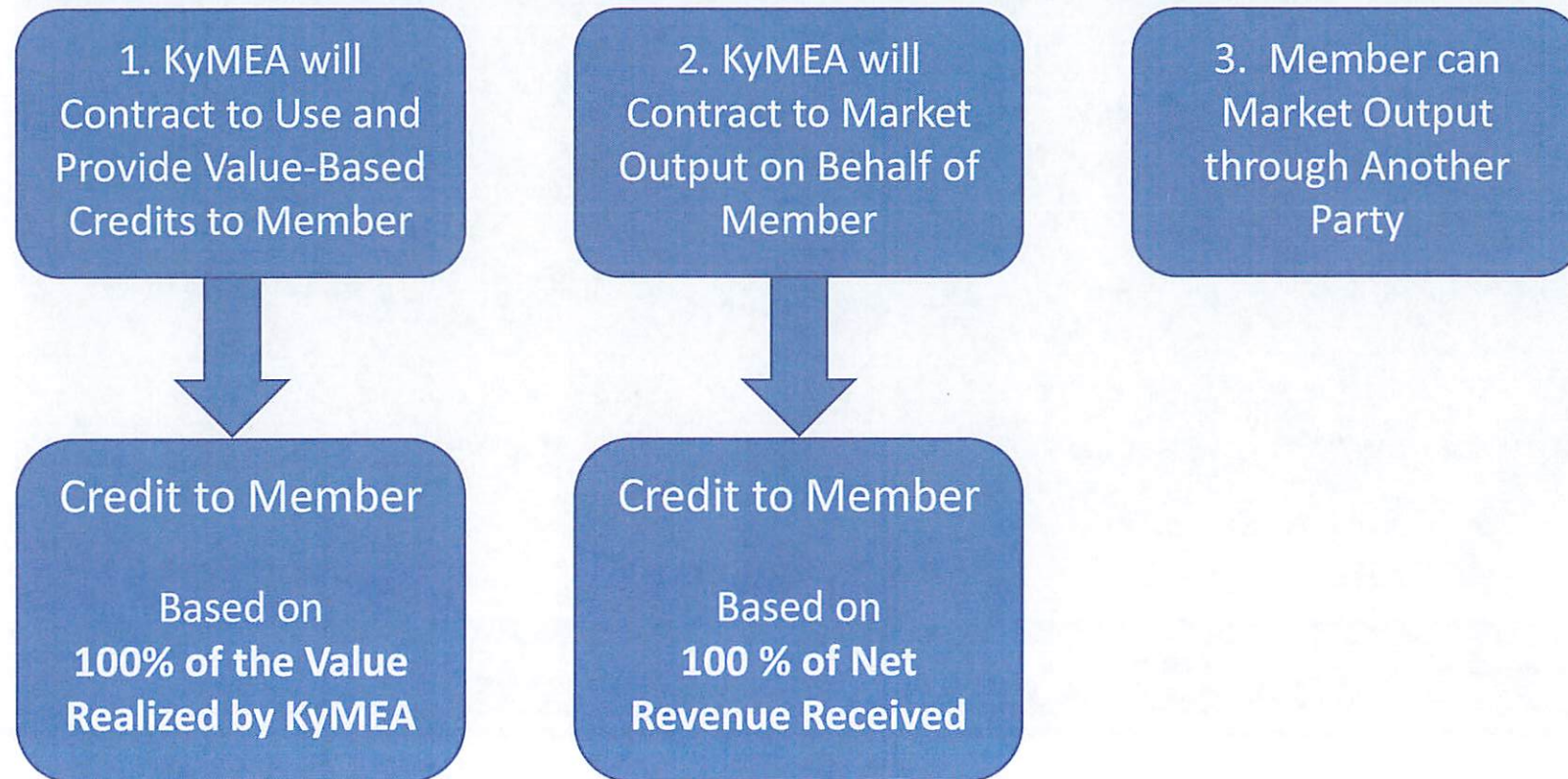
4 Main Components of Monthly Charges

Component		Billing Units		Rate
1. Demand Charge	=	Monthly Member Peak Demand (kW)	times	\$/kW-mo.
2. Energy Charge	=	Monthly Energy (kWh)	times	¢/kWh
3. Fuel or Purchased Power Adjustment	=	Monthly Energy (kWh)	times	¢/kWh
4. Transmission LGE/KU Sched 1 and 10	=	Monthly Member Demand at Time of Trans. System Peak (kW)	times	\$/kW-mo.

The All Requirements Contract Provides for Each Member to Maximize Benefits from Its Member-Owned Resources

(Currently, applies to SEPA and Paris Diesels. In the future, could also include Member-owned renewable, direct load control, and other resources.)

At Member's Option:



Example of Option 1 – Members’ Credits based on 100% of Value to KyMEA of Using SEPA and Paris’ Diesel Generation

1. Contract with KyMEA will Provide Stability for Members

- Term of up to 10 years – 5/2019 through 5/2029
- Expected to be extended as planning extends beyond 2029

2. Contract will Specify Up Front the Credits from KyMEA for Resource Capacity

Determined based on capacity costs projected to be avoided by KyMEA -- For alternative sources of peaking capacity

- For 1st 3 years , \$3.85/kW-mo. of dependable capacity
- Then escalating at CPI
- For SEPA, plus 15% to allow for costs of reserves avoided by KyMEA

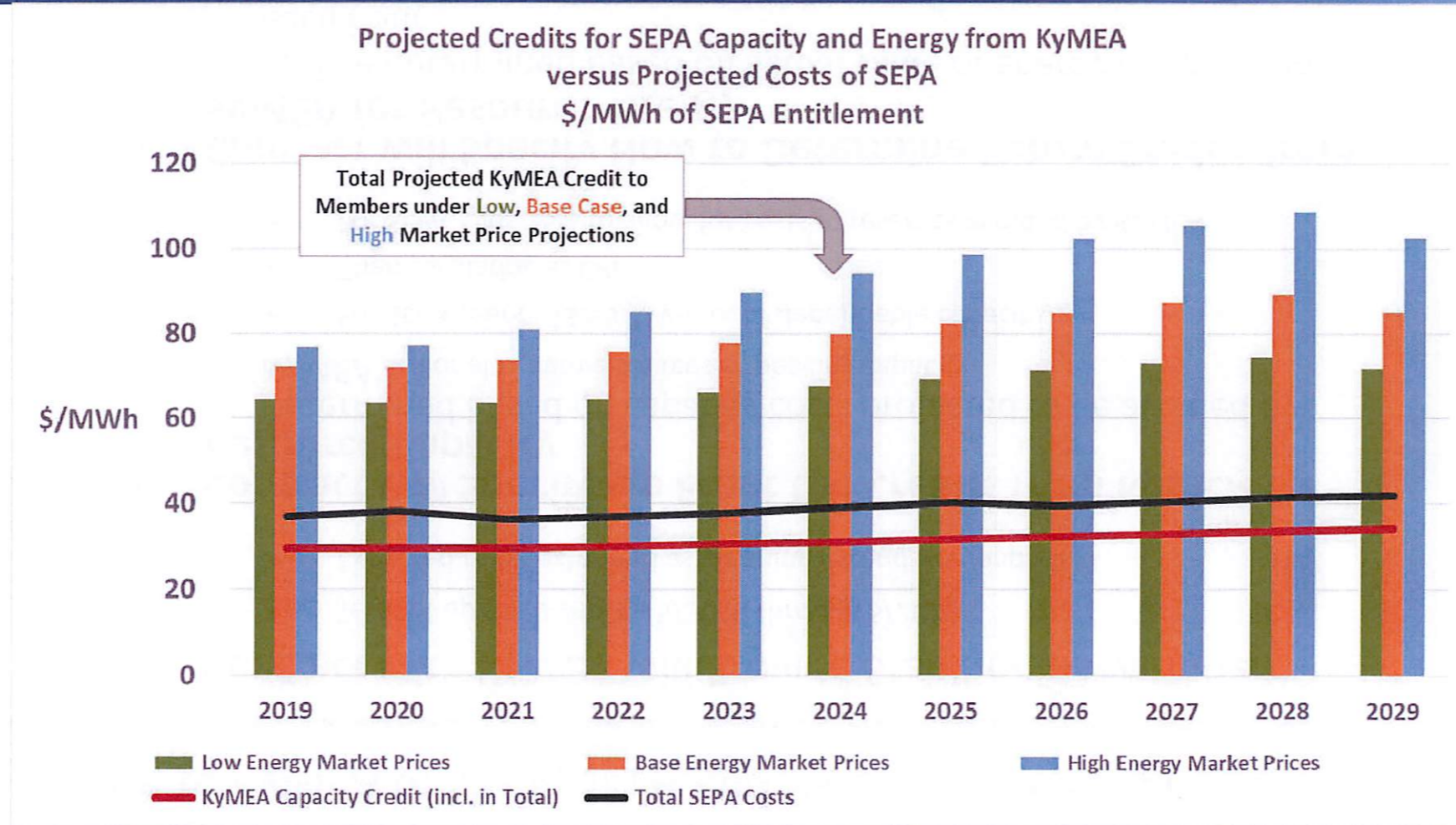
3. Contract will Specify How to Determine Future Credits from KyMEA for Resource Energy

Will be determined based on actual value of energy to KyMEA in each hour

- Net cost avoided by KyMEA for alternative energy sources, or
- Actual net revenue realized by selling output to others.

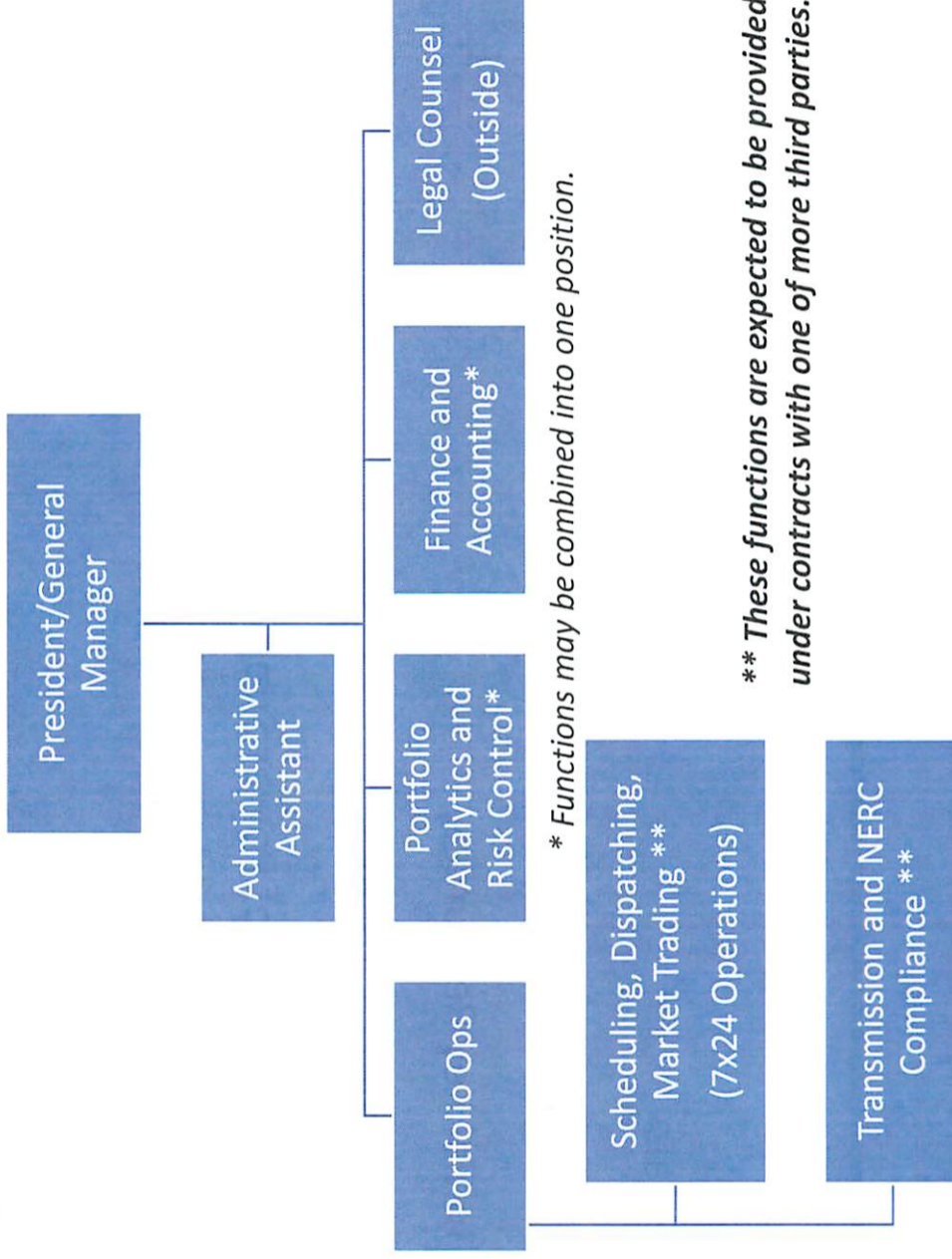
Under Option 1: Total KyMEA Credits are Projected to Result in Significant Net Benefit to all Members that have SEPA

-- KyMEA Fixed Capacity Credits Alone Would Cover Most Projected SEPA Costs



The Management and Operations Plan for KyMEA Calls for a Lean Power Supply Organization

-- Additional Organizational Planning is Scheduled for 2017



* Functions may be combined into one position.

** These functions are expected to be provided under contracts with one of more third parties.

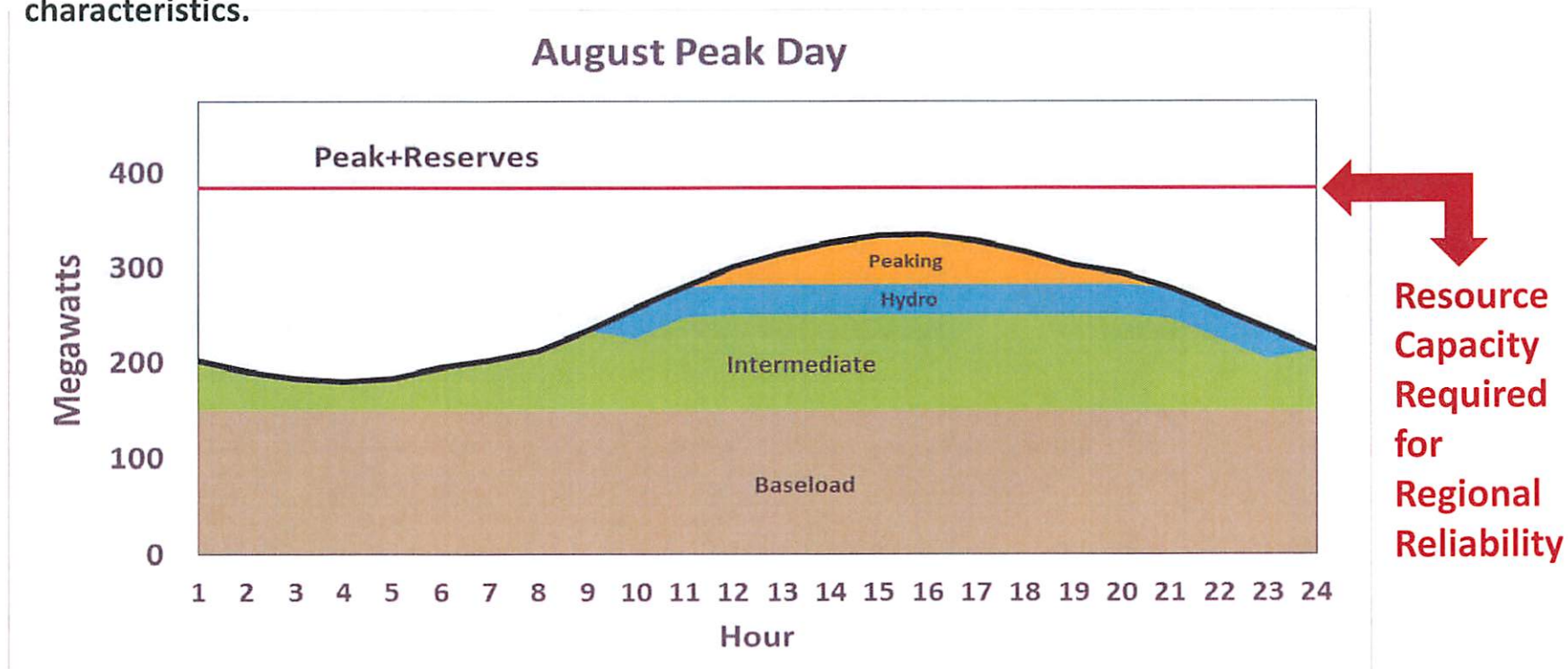
The All Requirements Portfolio

Topics

1. Goals
2. Process
3. Initial Key Resources
4. Flexibility to Adapt
5. Projected Cost of Power Supply
6. Competitiveness of Power Supply Portfolio

Why a Portfolio of Different Types of Resources? Why are Conventional Resources Important?

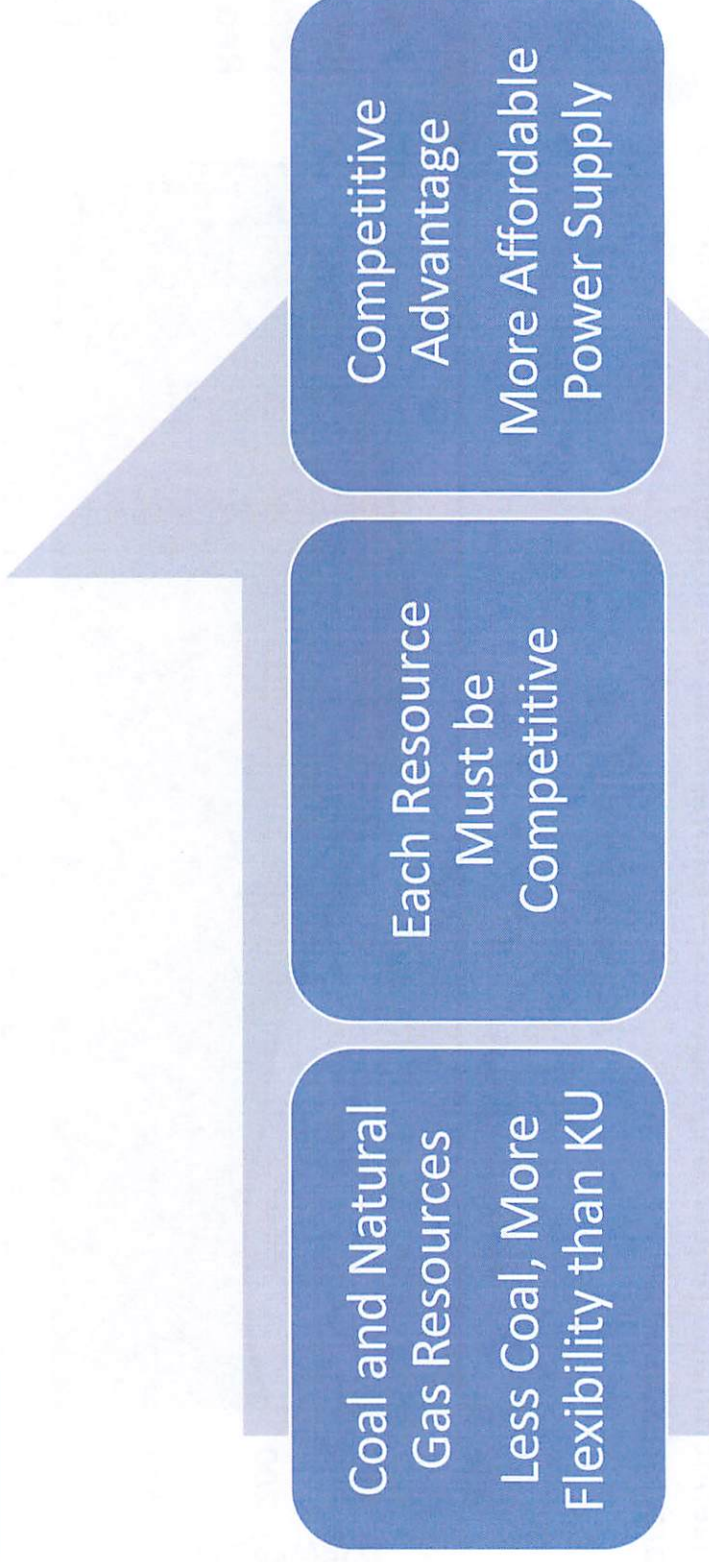
Even on Peak Days, load varies significantly over the hours of the day. Renewables do not reliably provide energy at the times demanded by customers. Economic supply requires use of multiple conventional and renewable resources --- each with different operating economics and characteristics.



Annual Minimum Loads are Typically 25-30% of Annual Peak Loads & Combining Loads of Multiple Systems Benefits from Load Diversity.

Key Objective 1

Competitive and More Affordable Future Cost of Electric Service *



** Although costs are projected to inflate in the future, KyMEA's goal is to have more competitive wholesale power costs, lessening upward pressure on rates to retail customers.*

Key Objective 2

Balancing Renewables and Conventional Resources *

Maintain flexibility in the portfolio for renewables and for adjusting resources to accommodate energy conservation and demand response programs

Develop Cost Effective
Reliable Portfolio of
Conventional Resources

Support Board and
Member Interest in
Developing Renewables,
Conservation, and
Demand Response
Programs

Continuously Adjust
Portfolio over Time

** KyMEA's portfolio is projected to initially derive approximately 10% of its capacity and 4% of its energy from zero-emission hydroelectric resources. Also, the KyMEA Board approved a study to be conducted this year of renewable resource options that could be implemented by May 2019.*

Process – Two RFPs – Identified 4 Resources

Negotiation of Power Purchase Agreements (PPAs) with Highest Evaluated Proposers

September 2015
RFP

- Coal: 10 Year Purchase from Big Rivers ⁽¹⁾
- Coal: 3 Year Purchase from Dynegy ⁽¹⁾
- Natural Gas: 10 Purchase from HenderSun Proposed Combined Cycle Unit ⁽²⁾

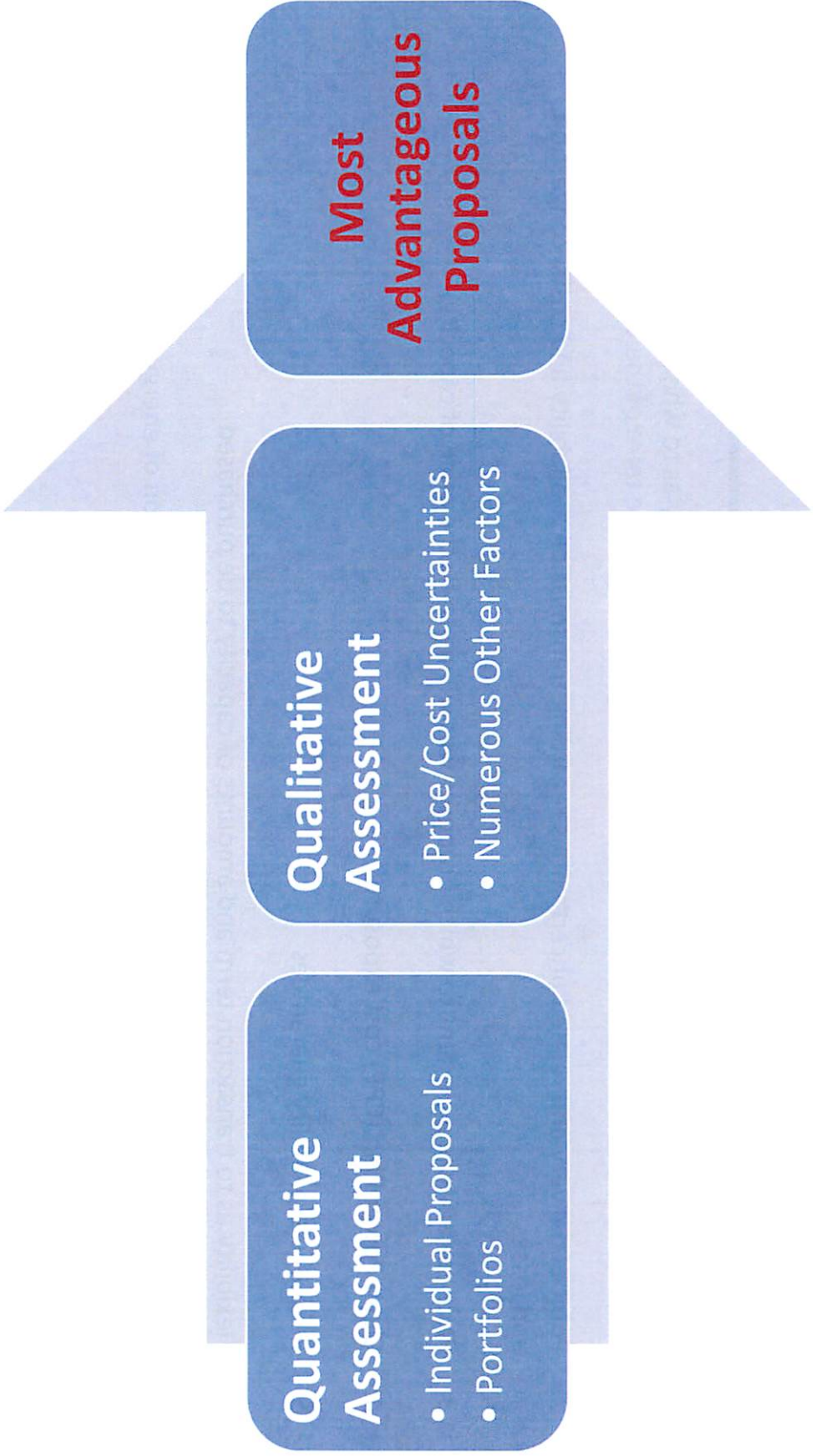
April 2016
RFP

- Natural Gas: 10 Year Purchase from Paducah's Combustion Turbines for Peaking Capacity ⁽¹⁾

(1) Under Contract. Transactions begin June 1, 2019

(2) Contract being negotiated. Transaction anticipated to begin June 1, 2022.

Process – Very Thorough Evaluation of All Responses to the RFPs and All Options Presented by Those Responses



Qualitative Considerations

(Not listed in order of priority)

1. Certainty or uncertainty of key proposal factors, such as uncertainty as to whether a resource on which a proposal was based would remain in service throughout the term of the transaction
2. Point of delivery and related uncertainties regarding transmission availability and costs, congestion, and losses
3. Price certainty (e.g., extent to which proposer was willing to fix the price of capacity)
4. Clean Power Plan (CPP) cost exposure
5. Resource availability guarantees
6. Flexibility as to transaction term and amounts of capacity to be purchased
7. Uncertainties caused by proposal provisions related to determination of energy entitlement
8. Day ahead and intra-day energy scheduling flexibility
9. Fuel supply related considerations
10. Creditworthiness considerations

The PPAs Provide Significant Flexibility -- as to Amount of Capacity to be Purchased

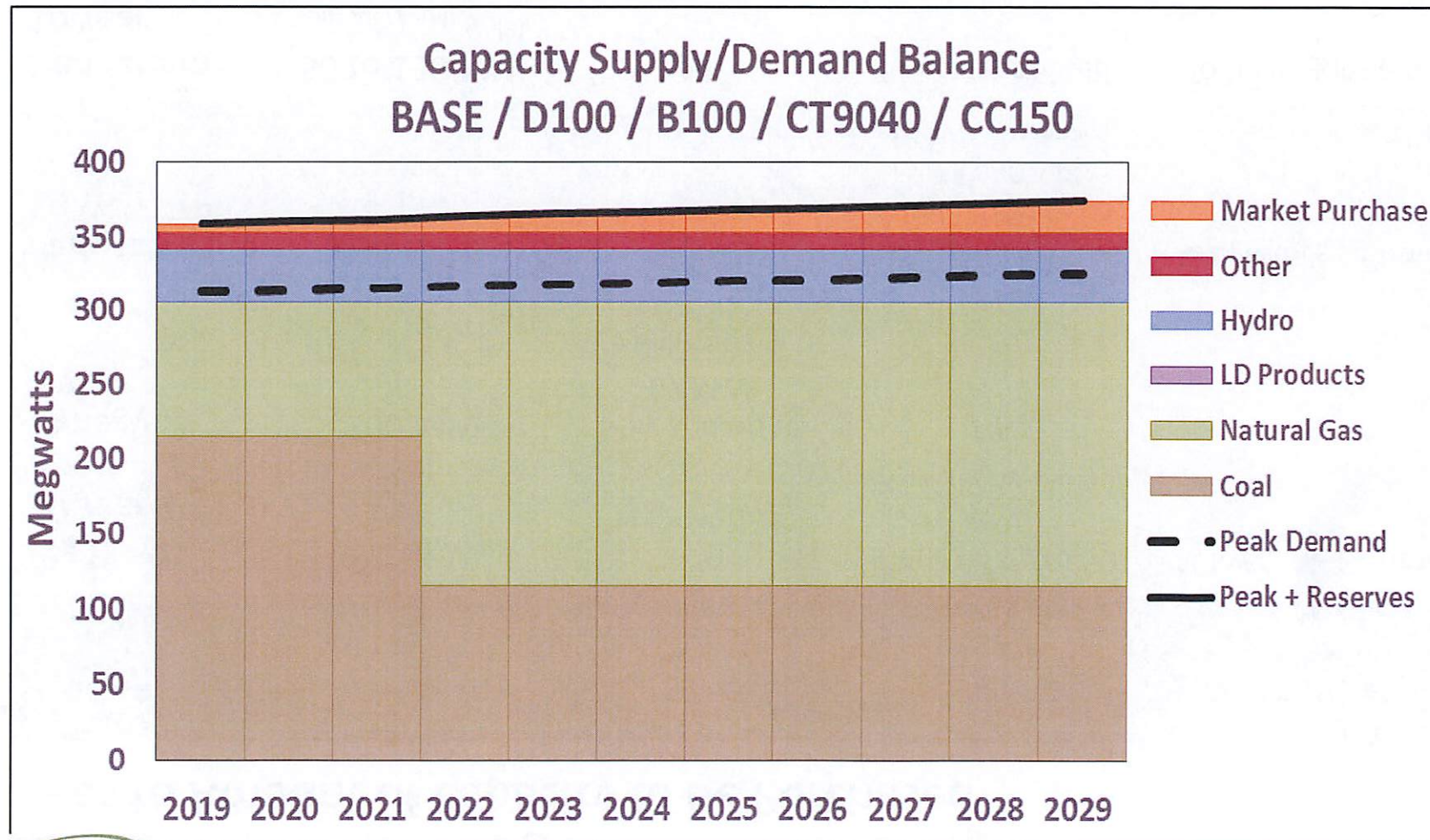
Proposal	Initial Capacity Nomination	June 2019 thru May 2022	June 2022 Thru May 2029	Option to Extend Contract beyond 2029
Big Rivers 10 Year ^{(1) (2)}	100 MW	Initial Nomination	May add up to 50 MW - with notice by 1/1/2018	At KyMEA's Option
Dynegy 3 Year	100 MW	May add up to 67 MW - with notice by 1/1/2017	NA	NA
Paducah 10 Year ^{(1) (2)}	90 MW	Initial Nomination	May reduce initial nomination to as low as 30 MW - upon 3 years' notice	At KyMEA's Option
HenderSun 10 Year	50 to 150 MW - for AR Members ⁽³⁾	NA	To be negotiated	To be negotiated

(1) Adjustment may be made at KyMEA's option depending on load of Members that execute All Requirements Contracts. At KyMEA's Option, KyMEA May reduce the initial nomination if some AR Members do not participate.

(2) Term extendable at KyMEA's option.

(3) OMU may purchase additional capacity from HenderSun directly or through KyMEA.

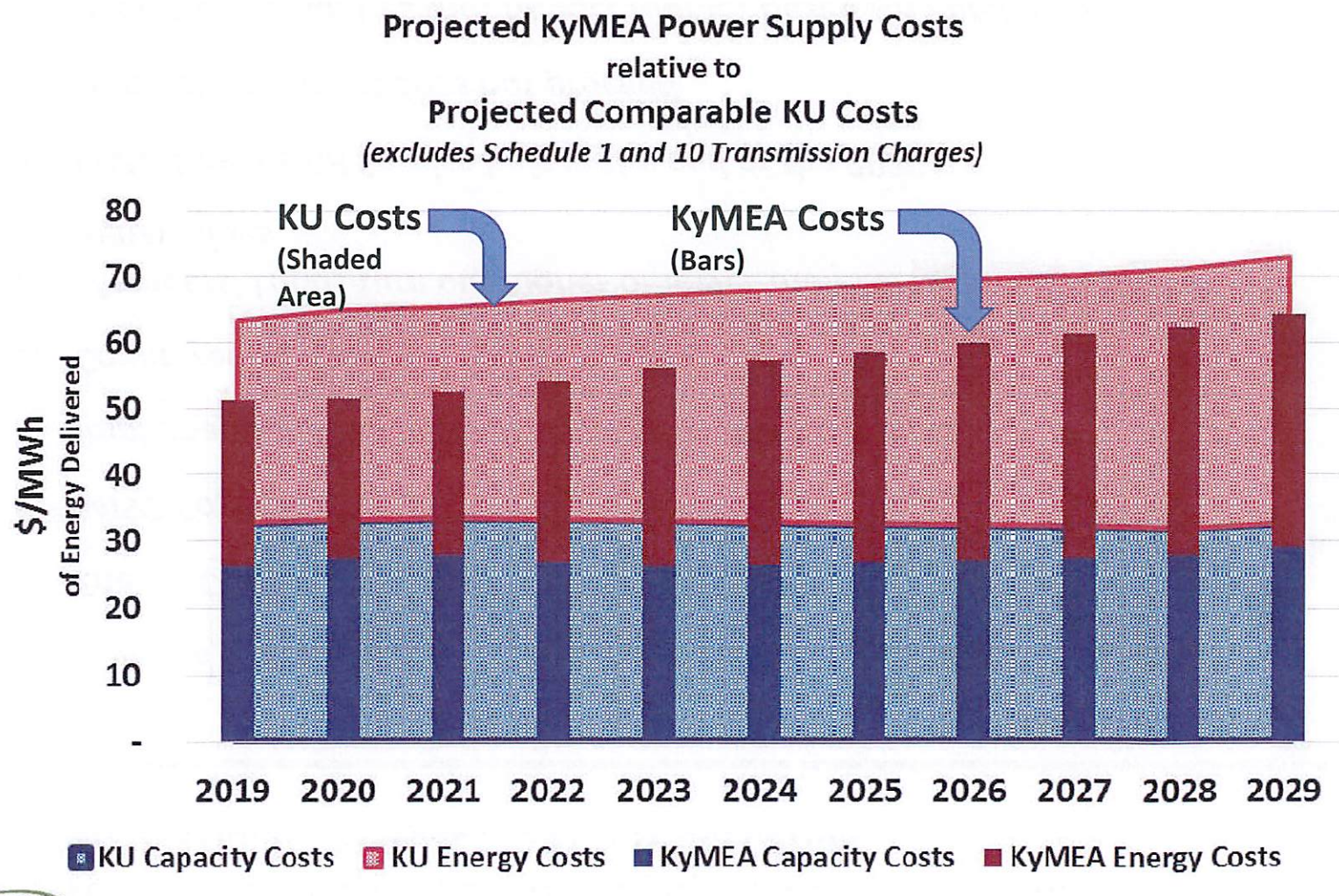
Illustration of Base Case KyMEA All Requirements Power Supply Portfolio



Benefits of the Proposed Portfolio Structure – Provides Significant Flexibility to Adapt to Future Scenarios

- 1. Demand Costs*
- 2. Energy Costs*
- 3. MISO Costs*
- 4. Implementing Necessary Transmission Arrangements*
- 5. Counterparty Risks*
- 6. Members' Loads turn out higher or lower than Forecast – Use of Renewables*
- 7. OMU Desires AR Service before the end of the 2020s*
- 8. HenderSun Project does not proceed*
- 9. Avoids Uncertainties that Impact Market Based AR Purchases*

KyMEA's Power Supply Costs are Projected to be Competitive with KU – One Scenario

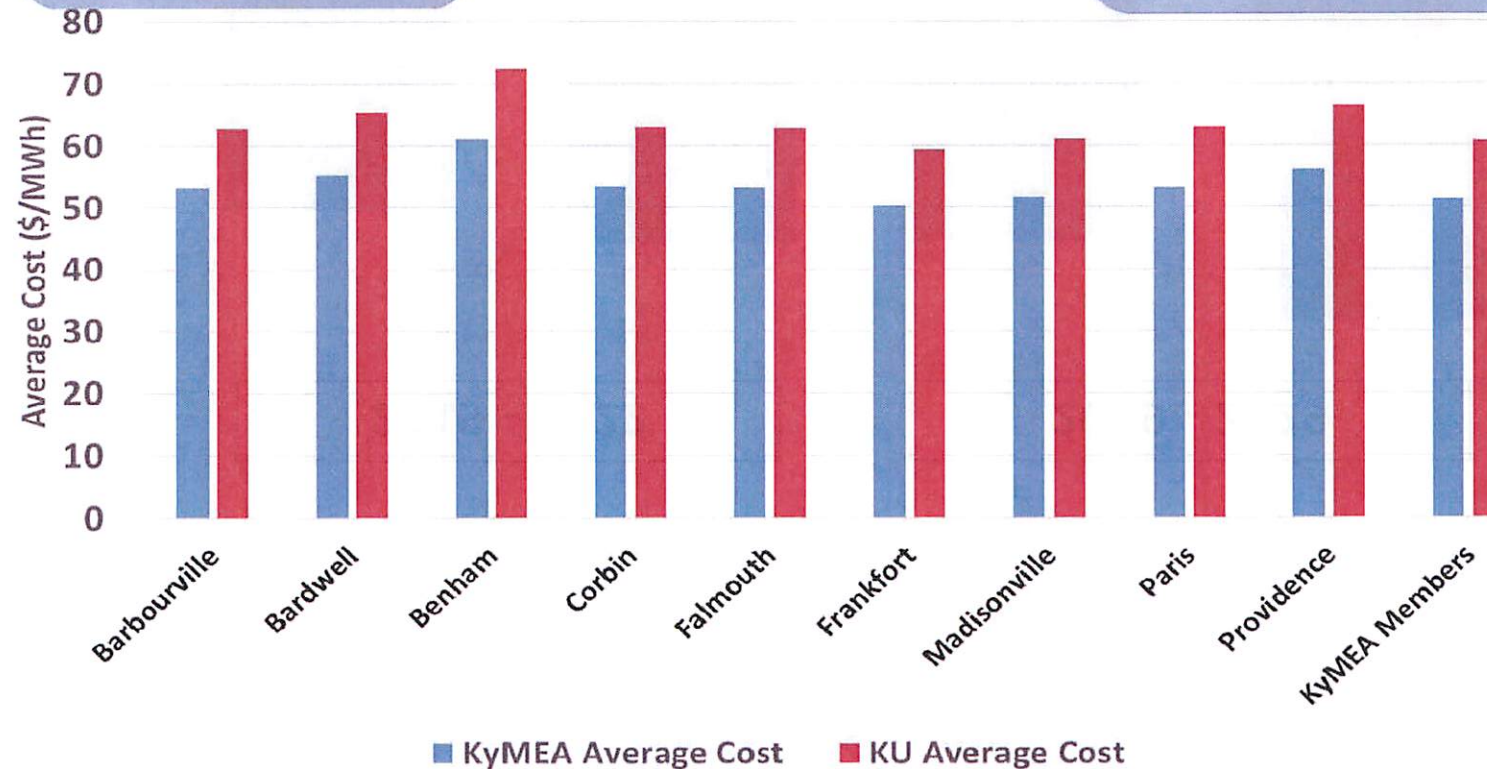


The KyMEA Members are Projected to Share Proportionately in the Projected Competitive Advantage relative to KU – One Scenario

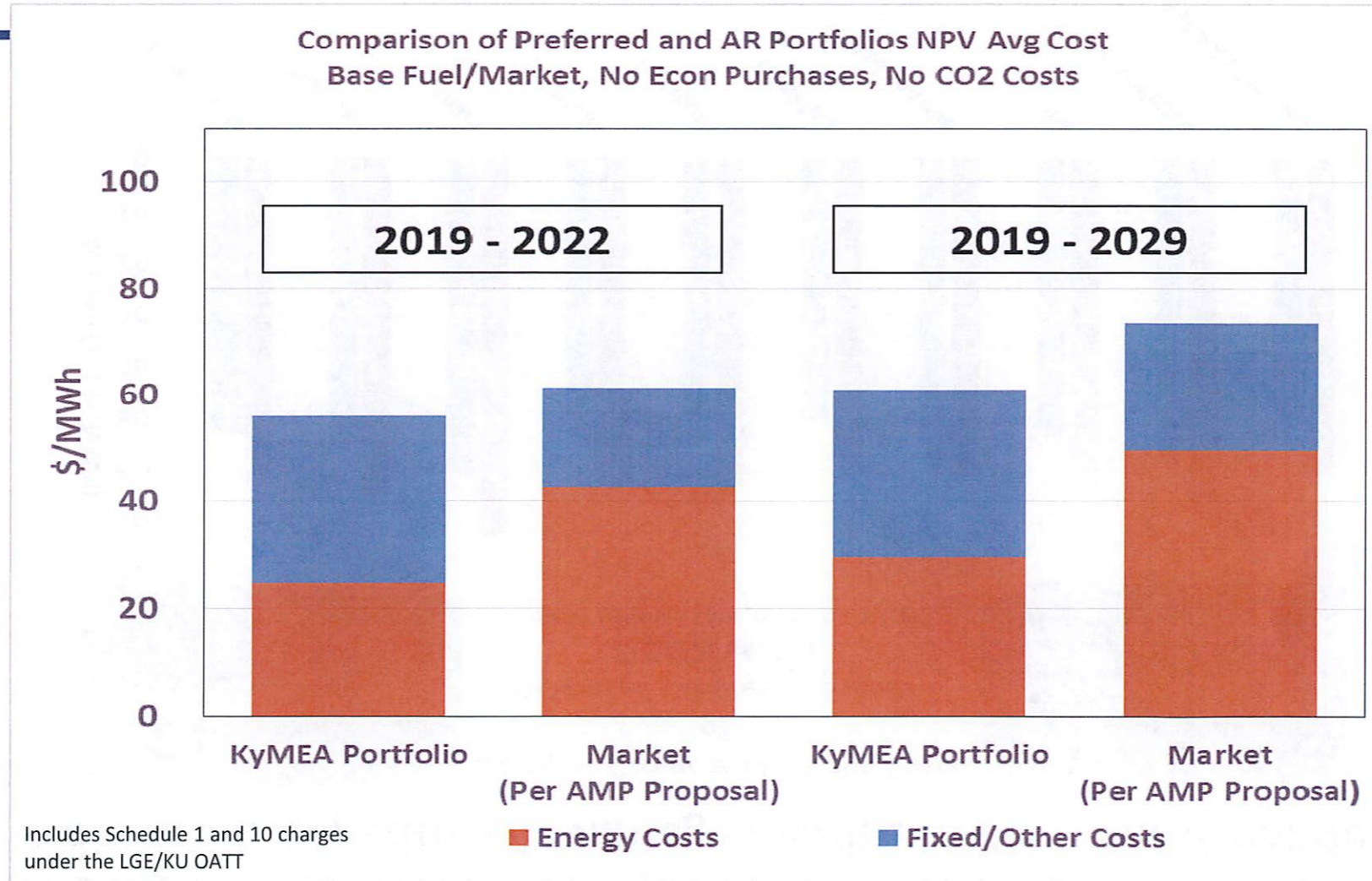
Average costs vary for Members because of differences in the monthly amount of energy each Member uses relative to peak demand, on average over the year.

Example: Projected Average Costs of Delivered Wholesale Power KyMEA vs. KU
(excludes Schedule 1 and 10 Trans. Charges)

All KyMEA Members are projected to have a substantial and proportionate competitive advantage, as compared to KU, under the proposed KyMEA Arrangement.



KyMEA's Power Supply Costs are Projected to be Competitive with Market Purchases – Short and Long Term – One Scenario



Conclusions Regarding KyMEA's Initial Long-Term Power Supply Portfolio – nFront Consulting

- 1. Planned resources are reasonably related to the projected capacity and energy requirements of KyMEA's All Requirements Members and provide flexibility for KyMEA to:**
 - ✓ Adapt the amount of capacity purchased if future loads are higher or lower than now forecast;
 - ✓ Incorporate renewable resources as the KyMEA Board and Members determine; and
 - ✓ Adjust for lower demands and energy requirements resulting from lower than forecast load growth, and/or conservation efforts implemented by customers, Members, and KyMEA.

Conclusions Regarding KyMEA's Initial Long-Term Power Supply Portfolio – nFront Consulting

2. The portfolio is structured to allow KyMEA to :

- ✓ Remain competitive with KU under a wide range of future conditions over the period at least through 2029;
- ✓ Extend certain resources beyond 2029 under favorable terms , which will enhance KyMEA's opportunities to remain competitive beyond 2029;
- ✓ Be successful under a wide range of CO₂ related environmental policies and fuel price scenarios;
- ✓ Benefit the Members by making purchases of energy from the MISO or PJM markets or providers on the LGE/KU system (e.g., OMU); and
 - during periods when the price of energy from those sources is lower than the cost of obtaining energy from the capacity resources in the portfolio.
- ✓ Effectively manage uncertainties and risks to maintain competitiveness with KU

Overall Conclusions: The Proposed AR Project Offers Significant Advantages

