

November 15, 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, November 15, 2016 at 5:00 p.m.

**ATTENDANCE:**

Ralph Ludwig, Board Chair  
Dr. Scott Green, Secretary/Treasurer  
Walt Baldwin, Vice Chair  
Anna Marie Pavlik Rosen, Board Member  
John Cubine, Board Member  
James Liebman, Board Attorney  
Herbbie Bannister, General Manager  
David Billings, Water Engineer  
Brian Bourne, Asst. Water Dist. Superintendent  
Harvey Couch, Marketing and Video Coordinator  
Katrina Cummins, Asst. Finance Director  
David Denton, Finance Director  
Sharmista Dutta, Water Engineer  
Vent Foster, Chief Electric Engineer/Asst. GM Operations  
Monique Gilliam, Customer Service Director  
Dana Goodlett, Cable Installation Supervisor  
Adam Hellard, Broadband/Security Manager  
Ryan Henry, IT Technician  
John Higginbotham, Asst. GM Cable/Telecommunications  
Scott Hudson, Electric Superintendent  
Casey Jones, IT Director  
Kathy Poe, Executive Assistant  
Kim Phillips, Safety Director  
Hance Price, Staff Attorney/Asst. GM Administration  
Mark Redmon, Support Services Director  
Julie Roney, Asst. WTP Superintendent  
Dianne Schneider, HR Director  
Alan Smith, Water Dist. Superintendent  
Glenn Waldrop, Public Information Officer  
Zach Hubbard, Cable 10 Videographer  
John Painter, nFront Consulting  
Tom Trauger, Spiegel McDiarmid  
Aaron Nickerson, GRW Engineers  
Lisa Stamm, Sherrill Morgan  
Robin Curry, Sherrill Morgan

**AGENDA**

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

**NOVEMBER 15, 2016 BOARD MEETING AGENDA**

1. **Action Item:** Consider Approving Minutes for the October 18, 2016 Board Meeting.
2. **Action Item:** Consider Renewal of Stop Loss Coverage with Pan American for the 2017 FPB Employee Health Plan.
3. **Action Item:** Consider Changes to FPB Employee Health Plan Effective January 1, 2017.
4. **Action Item:** Accept Electric, Water and Cable Financial & Statistical Data for October 2016.



5. **Informational Item:** Public Comment Period.
6. **Informational Item:** Departmental Reports:
  - KyMEA
  - Website Customer Comments
  - Cable Dept.
  - Customer Service
  - Electric Dept.
  - SEPA
  - Safety
  - Water Distribution
  - Water Treatment Plant
  - Administration Building
7. **Information Item:** Presentation Regarding Reservoir: Update and Direction on Moving Forward.
8. **Action Item:** Consider Award of Bid Invitation #1626 for Underground Faulted Circuit Indicators to U&I Products in the Amount of \$32,802.
9. **Action Item:** Consider Award of Bid Invitation #1629 for a Line Puller and Tensioner to Brooks Brothers Trailers in the Amount of \$79,850.
10. **Action Item:** Consider Award of Bid Invitation #1630 for two 15kV outdoor circuit breakers to Siemens Industry Inc. in the Amount of \$28,596.
11. **Action Item:** Consider Award of Bid Invitation #1631 for Spacer Cable to Brownstown Electric Supply Company in the amount of \$31,672.
12. **Action Item:** Consider Approving Stingray Music Renewal.
13. **Information Item:** Update on status of NCTC Negotiations with Fox Cable for carriage of nine networks.
14. **Action Item:** Consider Mitigation of Tanglewood Issues.

**RECESS FPB – CONVENE MPC**

15. **Action Item:** Conduct Election for Secretary/Treasurer of the Frankfort Plant Board Municipal Projects Corporation.

**ADJOURN MPC – CONVENE FPB**

16. **Action Item:** Conduct Election for Vice Chair for the Board of Directors of the Frankfort Plant Board.
17. **Action Item:** General Manager Evaluation.
18. **Old & New Business:**
19. **Informational Item:** General Manager's Comments.
20. **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.

21. **Closed Door Session:**

**BOARD ACTION**

Mr. Ludwig called the meeting to order. Ms. Poe called the roll. She noted five (5) Board members in attendance. It should be noted that the position of Vice Chair of the FPB Board of Directors was vacant until election proceedings were held at the end of this meeting.

1. **Action Item: Consider Approving Minutes for the October 18, 2016 Board Meeting.**

Mr. Ludwig stated that the minutes were provided to the Board for review prior to the meeting and asked if there were any revisions needed. Ms. Rosen advised that all her revisions had been completed and provided to the Board. Mr. Cubine moved to approve of the minutes for the October 18, 2016 Board meeting. Ms. Rosen seconded. Mr. Ludwig called the vote and the motion was approved unanimously.

2. **Action Item: Consider Renewal of Stop Loss Coverage with Pan American for the 2017 FPB Employee Health Plan.**

Staff recommends that the Board consider approving the specific and aggregate stop loss insurance coverage renewal with Pan American beginning January 1, 2017. The specific stop loss coverage reimburses FPB's employee health plan in the event any covered individual has claims exceeding the specific deductible; and the aggregate stop loss coverage reimburses the health plan if the total claims expense for the entire group exceeds projected total claims by more than 25%. To reduce premium expense, FPB has elected an additional aggregating specific deductible of \$75,000 that must be met by one or more health plan members before the carrier is responsible for reimbursement of claims expenses above the individual specific deductibles. Besides Pan American, Sherrill Morgan reviewed proposals from three other carriers; Pan American's proposal is the lowest overall cost (see detail pages for comparison).

In exchange for a lower specific stop loss premium, Sherrill Morgan, recommends that we accept the \$85,000 specific deductible option. With the \$75,000 specific deductible option, specific stop loss premiums will increase 12% or \$36,562 annually (from \$294,217 to \$330,779); however, with the \$85,000 specific deductible, stop loss premiums will increase approximately \$1,500 annually compared to 2016. The lower premium expense, will offset the additional \$10,000 in expected claims liability (based on claims for the last two years).

Rates for third party plan administration with MedBen are guaranteed through December of 2017. Total plan costs, options and employee contributions are provided in the detail pages.

The following table shows FPB approximate plan costs & deductibles based on coverage for 56 Singles and 149 Families:

<b>Plan Year (January through December)</b>	<b>2016</b>	<b>2017</b>
Specific Deductible	\$75,000	\$85,000
Aggregating Specific Deductible	\$75,000	\$75,000
Annual Specific Premium	\$277,808	\$277,127
Annual Aggregate Premium	\$16,408	\$18,646
<b>Total Annual Stop Loss Premiums</b>	<b>\$294,216</b>	<b>\$295,773</b>



NUFOrgan Transplant Coverage	\$37,173	\$37,173
Expected Medical Claims	\$1,973,095	2,044,984
Administration Fees	\$114,723	\$114,723
Dental/Vision Claims (projected)	\$237,390	\$237,390
<b>Total Projected Health Care Expense</b>	<b>\$2,656,597</b>	<b>\$2,730,043</b>

Ms. Schneider briefly explained the renewal of Stop Loss coverage and introduced Lisa Stamm of Sherrill Morgan. Ms. Stamm reviewed specifics of the coverage, premiums, recommended changes in the coverage, and price differences based on the recommended changes.

In response to Mr. Cubine, Ms. Stamm acknowledged that these costs were for the calendar year and Mr. Denton acknowledged that half these costs were already included in the current budget.

Mr. Cubine moved to approve the Stop Loss Coverage and Aggregate Coverage as proposed. Dr. Green seconded. Mr. Ludwig called the vote and the motion passed unanimously.

3. **Action Item: Consider Changes to FPB Employee Health Plan Effective January 1, 2017.**

The required changes are noted as "required". Other changes are recommended for cost savings or improved administration by MedBen or Staff:

- 1) revise language for working spouse provision so that legal spouses are eligible for FPB coverage if they are not eligible for coverage through his or her own employer that meets the requirements to be considered minimum essential coverage (MEC) under the Affordable Care Act, or, if eligible for such MEC, is enrolled in that coverage. This language removes the stipulation that the other coverage be less than 65% of the other employer's plan cost. The other employer's plan cost is sometimes difficult to obtain;
- 2) remove restrictions & exclusions related to mental health and alcohol/substance abuse treatment (to comply with Mental Health Parity Act et al.); required
- 3) add plan language regarding durable medical equipment to cover expenses based on the reasonable and customary charge according to the standard method of delivery of these items, (whether rental or purchase – examples of durable medical equipment include crutches and infusion pumps);
- 4) require pre-certification for Proton Beam Therapy to ensure medically necessary & appropriate. Proton Beam is used to treat certain cancers;
- 5) update the prescription plan to cover influenza and herpes zoster (shingles) immunizations at 100% when obtained at a pharmacy;
- 6) remove provision that adult dependent children must comply with WellLiving requirements for coverage under a WellLiving plan; required
- 7) use Reference Based Pricing for out of network claims, i.e. pay claims at a percentage of Medicare if Out-of-Network (RESEARCHING THIS FURTHER);
- 8) cover new U.S. Preventive Services Task Force recommendations at 100% (no deductible, copay, or coinsurance): tuberculosis screening; colorectal cancer screening, syphilis screening; aspirin preventive medication; depression screening; required
- 9) provide coverage of bowel preparatory prescription medication (for colonoscopy) at 100%; required



- 10)increase Out of Pocket Limitations – increase maximum out of pocket for in-network (amounts paid for covered services including Rx, copays and co-insurance) to the 2017 ACA limitation of \$7,150 per individual and \$14,300 for family (previous limits were \$6,350 per individual and \$12,700 per family); RESEARCHING THIS FURTHER

Ms. Schneider briefly explained items listed for potential changes to the employee health plan.

In response to Mr. Cubine, Ms. Schneider advised that the costs of these changes had been incorporated in the costs as discussed in the previous item.

Ms. Schneider advised the Staff was still researching item number 7 and would like additional time for consideration of that item. She further noted that Staff may bring that item back to the Board at a later date for approval.

Mr. Ludwig moved to approve changes to FPB Employee Health Plan Effective January 1, 2017 with it being understood that item number 7 of the presentation will be further researched. Mr. Cubine seconded. Mr. Ludwig called for the vote and the motion passed unanimously.

At this point in the meeting Mr. Cubine requested a status update regarding the salary study approved for the lineman positions. Ms. Schneider stated that Staff was working with the Johanson Group to get started and that she planned to speak with Mr. Johanson before the end of the week.

4. **Action Item: Accept Electric, Water and Cable Financial & Statistical Data for October 31, 2016.**

Mr. Denton discussed the statement of net position for the period ending October 31, 2016. He discussed assets, debt, liabilities, capital assets, cash and investments, and expenses and revenues. Mr. Denton advised that financial performance was on track through October 31, 2016.

Mr. Ludwig moved to accept the Electric, Water and Cable Financial and Statistical Data for October 31, 2016. Dr. Green Seconded. Mr. Ludwig called the vote and the motion passed unanimously.

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

Mr. Ludwig opened the floor for public comment.

Art Williams stated that he was an attorney from Louisville and presented his contact information. He stated that for 38 years his practice had focused on environmental and energy law. He advised that he had been asked to speak on behalf of Andy McDonald and EnvisionFranklin County. Mr. Williams discussed the concerns from EnvisionFranklin County regarding the All Requirements Contract with KyMEA in connection with long term contracts with coal fired generated energy and the appearance that the contracts inhibit local government investment in energy efficiency, conservation, and renewable energy resources. He stated that the evaluation by Synapse confirmed these concerns. He noted that a controversy exists with the KyMEA and that action should be taken under the dispute provisions of the contract. He noted that the controversy was the substantial disparities between the representations made by KyMEA, and the manner in which clean energy projects would be supported and incentivized by KyMEA versus the actual treatment of such initiatives under the contract. He further noted that the KyMEA should be amenable to amending the contract to address these concerns. He stated that it was critically important that the FPB obtain independent legal counsel to advise and represent it on these matters. Mr. Williams stated that there were also concerns of the tremendous long term impact on rate payers while reducing the FPB's flexibility to use lower cost energy saving measures, namely energy efficiency, demand side management and distributed generation. He urged the FPB to seek changes to the



All Requirements contract and the KyMEA's energy portfolio or, failing that, seek a more independent path of meeting the community's electricity needs.

Chris Schimmoeller introduced herself as president of EnvisionFranklin County. She stated that she supported the statements of Art Williams. She stated that she would like more than one opinion to look at all aspects and for the Board to reconsider its decision based on the Synapse analysis.

Suzanne Gray stated that FPB's relationship with the community is broken and that work should be done to improve its relationship with the community.

Lee Waterfield requested that Tanglewood be allowed to comment during the consideration of the Tanglewood mitigation item. Mr. Ludwig stated that the Board would take that under advisement at that time.

6. **Informational Item: Departmental Reports:**

**KyMEA:** Mr. Foster stated that the next KyMEA meeting would be held in Bowling Green on November 16, 2016. He discussed the Synapse Energy report regarding FPB's future power supply contracts with KyMEA. He stated that Staff and FPB consultants' opinion was that the report contained inaccuracies and misconceptions. He introduced John Painter from nFront Consulting and Tom Trauger with Spiegel McDiarmid to discuss a presentation to address questions, inaccuracies and misconceptions. The presentation is attached and incorporated as a part of the minutes of this meeting.

Mr. Painter stated that there were several areas of the Synapse report which needed to be further discussed in order to clarify questions and concerns. He advised that he wanted to discuss the following issues for the purposes of clarification: profits, the process, benefits to FPB and its customers, the structure of the resource portfolio, special coal risks, local initiatives and how those can go forward, and exit options.

Mr. Painter explained the consulting team and their cumulative experience in power supply and municipal joint action. He stated that the team has represented the group of municipals individually and collectively from the beginning and recommended the formation of KyMEA for the benefit of the various municipal members. He explained that KyMEA was an interlocal cooperative and not an external third party with a different set of interests and goals. He advised that this is FPB working with the group for improved economies which allows a stronger buying power or market presence and offers FPB significant benefits. He reiterated that KyMEA is not a third party trying to sell something.

Mr. Painter stated that this process began late in 2013 and had extended through the summer of 2016 with the formation of KyMEA. He stated that FPB had been involved in discussions and decisions from the beginning. He advised that the process had been very interactive with FPB in public sessions, and in every monthly meeting FPB had participated in the discussion and review of all materials.

Mr. Painter stated that selection of the elements of the power supply portfolio was selected through the RFP process. He advised that KyMEA received 30 different proposals from 12 different suppliers. He further advised that a second RFP was sent, on the advice of counsel, for peaking capacity and additional proposals were received and considered. He stated that more than one option was considered and noted that some of the options for all requirements included alternative power arrangements. He further discussed results of RFPs and stated that FPB, in collaboration with other municipal members, had interacted with and scoured the market for the best opportunities for power supply to develop this portfolio.

Mr. Painter stated that there were very significant benefits to FPB and its customers from the KyMEA arrangement and the portfolio of power supply resources. He advised that FPB now has control of future power supply situations and power supply costs which they did not have as a Kentucky Utilities customer. He advised that other



significant benefits to FPB include the potential for substantially lower costs, that the portfolio was a collaboratively designed plan, and that FPB has recourse for disputes. He further stated that FPB currently holds a seat on the KyMEA Board for discussions, decisions and dispute resolution.

Mr. Painter stated that the KyMEA portfolio has a lower reliance on coal energy through 2029 than Kentucky Utilities. He further advised that the portfolio was not based on 100% coal and advised that the All Requirements Contract provides for and facilitates the use of member owned resources. Mr. Painter further stated that efficiency programs and renewable resources could be implemented as the FPB Board deems appropriate.

Mr. Painter stated that cost of power was very important to FPB customers. He advised that 67% of FPB's customer base was commercial, industrial or municipal customer groups. He further advised that the remaining percentage of residential customers included low income customers who place a very high priority on the cost of power. He stated that cost of power had been the main focus of all the municipals in the group as well as assembling the most cost effective power portfolio relative to Kentucky Utilities and absolutely.

Mr. Painter discussed the comparative cost of power with the KyMEA portfolio versus purchasing power through Kentucky Utilities from 2019 through 2029. He further explained the fixed and variable costs and comparison. He noted advantages through KyMEA with both variable and fixed costs and advised that the average estimated cost savings over the ten-year period was approximately 15%. He further stated that the amount of the cost reduction was not guaranteed and could fluctuate. Mr. Painter explained that if the reduction was 10% FPB and its customers would see a cost savings of 4.5 million annually and if the reduction was 15% FPB and its customers would see a cost savings of approximately 7 million annually, which equates to a savings of 45 million to 70 million dollars over the ten (10) year period.

Mr. Painter explained the mix of resources, which includes coal resources but is not 100% coal resources. He advised that the amount of coal resources in the KyMEA portfolio are less than Kentucky Utilities and that KyMEA was currently working on a fourth power supply agreement from a natural gas combined cycle resource which will represent a large portion of the KyMEA portfolio.

Mr. Painter explained a graph depicting capacity resources. He noted that in the first three years approximately two-thirds of FPB's capacity would be generated from coal resources. He added that in 2022 resources would adjust and a larger portion of capacity would be generated from natural gas resources. He further explained the ability to purchase power on the market in order to reduce the cost of power. He discussed renewable resources incorporated into the KyMEA portfolio and explained future rights to choose resources in order to hedge and reduce the risks of significant cost increases and rate shock. He stated that the hydroelectric energy incorporated into the portfolio in future years would represent 10% of capacity requirements and 4% of energy requirements.

Mr. Painter explained costs and risks under current power purchase agreements. He stated that there were provisions in each of them to protect FPB in the event of non-performance and to allow each member to exit the contracts. He advised that capacity costs were written into the contracts and fixed, and were not based on the companies' performance. He further advised that none of the current environmental regulations will affect FPB's cost under the current contracts and stated that FPB was in a preferential position, relative to Kentucky Utilities, with regard to the clean power plan legislation.

Mr. Painter discussed compliance costs and stated that those compliance costs cannot and will not affect the price FPB, and its customers will pay for energy from the coal resources, and those protections are provided for in the contracts.



Mr. Painter explained that Big Rivers was ordered to sell more power and be more aggressive in the marketplace by the PSC and explained the reasoning for confidential information in the contract under the non-disclosure agreement. He noted that the unredacted power supply agreement had been supplied to members of the FPB Board, the KyMEA Board as well as various attorneys representing KyMEA municipal members.

Mr. Painter advised that Big Rivers was already in compliance with all environmental issues listed in the Synapse report. He stated that those issues would not increase FPB's cost of power under the Big Rivers agreement. He further advised that Big Rivers was able to mitigate almost completely, if not completely, the impact of the clean power plan as it was constituted before it was put on hold by retiring one of their coal assets. He stated that if a different form of exposure were to come with any potential changes to the clean power plan, FPB's exposure would be limited by the contract and would be much lower relative to exposure with Kentucky Utilities.

Mr. Painter explained that the All Requirements Contract would allow for other resources, including member owned resources like SEPA, which would be much more profitable because it could be used to service part of the FPB load. He continued with his explanation regarding the inclusion of renewables, customer owned resources and the implementation efficiency programs without limitations other than net metering coordination between members under the All Requirements Contract. He further advised that the All Requirements Contract could make those options more attractive for FPB and its customers. He further explained options under the All Requirements Contract for member owned resources and explained the improved profitability of SEPA energy under the All Requirements Contract.

Mr. Painter discussed exit options under the All Requirements Contract. He discussed risk management under the power supply contracts and with the diverse portfolio. He advised that the termination requirement was five (5) years with a clause stating that the departing member would continue to make payment for a continuing resource obligation if the cost of the resources exceeds the value. He explained that the earliest opportunity to exit the contract would be May 2024 and reiterated that a five (5) year notice of termination must be given.

Mr. Painter summarized stating that this program was projected to be more attractive than had FPB remained with Kentucky Utilities, allowed the members to have much more control over its energy resources, allowed more profitability with member owned resources, and was consistent with members' goals in setting up KyMEA. He further advised that there were no obligations to take any minimum energy amounts under the current contracts.

Mr. Cubine stated that he had two questions he would like clarified by Mr. Trauger for the record. He further stated that he would like a written response from Mr. Trauger after the meeting, and would like Mr. Liebman and any other counsel to review and confirm those answers for the Board. Mr. Cubine stated that he would like the opinion as quickly as possible.

Mr. Cubine asked what is FPB's protection for any unexpected spike in rates or default of a supplier in KyMEA's power supply portfolio? Mr. Trauger stated that the contracts include the flexibility to take energy or to not take energy, the flexibility of scheduling of power, and the flexibility to purchase in the market. Mr. Trauger stated that there were very clear protections under the contracts in the event of a default of any power supplier, which would excuse FPB from participating in the contract, allow FPB to exit the contract and protect all of FPB's legal rights to pursue lost economic benefits, as provided for in the contract. Mr. Painter noted that the contracts include credit provisions that require the supplier to provide a letter of credit if their credit rating falls below the required score. Mr. Painter advised that all the risk mitigation factors one would expect to find in any contract were included in these contracts, were favorable to KyMEA and therefore favorable to FPB. Mr. Painter further noted that the other protections were the structure and diversity of the portfolio and that charges were clearly stated for the term of the contract or were clearly stated with a



clearly stated escalator, which would prevent rates from increasing or escalating unpredictably.

Mr. Cubine asked for further confirmation of a clear process in the contract that provides for FPB to get out of the KyMEA agreement or the agreements with the providers if certain criteria is met? Mr. Trauger stated affirmatively that FPB has a right to terminate its participation in KyMEA if it concludes that it is not in the best interest of FPB to continue with KyMEA. He noted that a leaving member must pay for resources secured by KyMEA on their behalf which were still in effect past the five-year termination.

Mr. Cubine requested Mr. Trauger's written legal opinion as expeditiously as possible and that it be provided to Mr. Liebman to review. He further requested that Mr. Liebman determine if any further legal review was necessary. Mr. Cubine also requested that the opinion be provided to Art Williams for his review and response.

In response to Ms. Rosen, Mr. Painter explained the difference in efficiency programs and member resources. He further stated that if FPB reduces its usage it would not pay energy or demand charges for energy it was not using. He further explained the manner in which capacity charges would also decrease. With regard to member resources, Mr. Painter stated that a contract would be developed to offset capacity and energy charges. He advised that anything done by Frankfort would benefit only FPB and its customers.

In response to Mr. Baldwin, Mr. Painter further explained the benefits and cost reductions of efficiency programs and member owned resources. He explained the billing processes and rate structure including the energy charge and demand charge, and stated that there was no separate capacity charge. He reiterated that 100% of capacity savings from member owned resources would pass through to FPB as well as any energy credit for that resource.

Mr. Foster discussed information regarding future stakeholder meetings. He stated that the consultants could discuss examples of what is standard practice in the industry.

Mr. Painter stated that municipal utilities all over the United States were getting involved in renewable projects and efficiency programs. He stated that municipal utilities sometimes offer rebate programs and various low income customer assistance with weatherization or home improvements to promote energy efficiency. He advised that on the solar side, community solar projects were popular. He further stated that landfill gas was another option to be considered but profitability of this option depended upon a specific set of circumstances being met. He further discussed biomass as another renewable option but advised that it was very expensive. Mr. Painter explained that some utilities are not pushing efficiency programs due to low fuel prices however others are still working to push efficiency programs forward.

Mr. Baldwin stated that this change was a major move and that he still had major concerns. He stated that it would be beneficial to be careful and that he felt like additional independent consulting and review was needed from a legal aspect and business aspect.

Mr. Baldwin moved to direct the General Manager to acquire counsel and consulting services as quickly as possible to give independent analysis from a legal perspective and a business perspective of the contract. Mr. Cubine asked Mr. Baldwin for a proposal of coordination of the legal aspect with what Mr. Liebman would be doing with Mr. Trauger? Mr. Baldwin stated that FPB needed an attorney and consultants that actually have some industry expertise to review the contracts and while it was valuable to have general opinions of local counsel it was also valuable for an outside opinion from someone familiar with industry standard. Mr. Cubine asked if Mr. Liebman should coordinate with legal research and Mr. Baldwin stated that would be appropriate. Ms. Rosen seconded the motion.



Mr. Ludwig stated that he believed it was repetitive and unnecessary to incur additional costs for more reviews. Mr. Baldwin stated that he still did not see any defined exit clause, which he believed, would extend as additional power purchase agreements were layered into the portfolio. He further noted that the Board did not know what the costs were going to be going forward at this point.

Mr. Cubine stated that he did not want to spend a lot of money but felt like the Board owed it to the community to address their concerns.

Ms. Poe called the vote by member and the motion passed unanimously.

At this point in the meeting Mr. Higginbotham spoke in memory of Steve Forrest, an employee of the FPB, who lost his life suddenly. Mr. Cubine and Board members noted that the Board sends it condolences to the Steve Forrest family.

**Website Customer Comments:** There were no Website customer comments.

**Cable:** Mr. Higginbotham explained graphs and numbers provided to the Board and advised that the minutes of the most recent Cable Advisory Committee meeting were included in the Board package information for review.

**Customer Service:** Ms. Gilliam reviewed and discussed graphs presented to the Board. She discussed customer service comment cards and noted a decrease in negative comments. She further advised that cycle billing letters would be sent out within the week.

**Electric Dept.:** Mr. Hudson explained graphs for the electric department and noted 28 outages for the month of October.

**SEPA:** Mr. Bannister explained SEPA graphs. He noted seven (7) months of losses and two (2) months of profit for 2016. He further discussed the minimum and maximums of the contracts and how the energy is scheduled to maximize the amount received from the market.

**SAFETY:** Ms. Phillips noted no (0) OSHA recordable accidents and one (1) vehicle accident. She advised that there were no injuries with the vehicle accident.

**Water Distribution:** Mr. Smith noted four (4) main breaks, three (3) outages, and nine (9) new services for the month of October.

**Water Treatment Plant:** Ms. Roney stated that the water treatment plant produced 278.5 million gallons of potable water with an average daily production of 9 million gallons per day. She discussed rainfall amount, and made a presentation regarding the current drought status in Kentucky. In response to Mr. Cubine, Ms. Roney stated that to her knowledge Frankfort had never been in the situation to issue any type of water shortage awareness. She noted that fairly dry conditions were being predicted through the end of December.

Mr. Cubine requested that Ms. Roney's and Mr. Painter's presentation be put on the FPB website for public viewing.

In response to Ms. Rosen, Mr. Roney advised that there was no need to request voluntary water conservation at this time.

**Administration Building:** Ms. Dutta explained the status of construction on the new administration building. She specifically discussed completed and continuing activities. She noted that a strong effort was being made to complete the building by the substantial completion date but that it was not likely that substantial completion will happen by mid-December. She noted that she hoped to have an updated construction schedule by the end of the week.



7. **Information Item: Presentation Regarding Reservoir: Update and Direction on Moving Forward.**

Staff has prepared a presentation that summarizes the history of the reservoir, concerns with the existing structure, previous and ongoing repair work, and the decision matrix that explains why Staff has recommended replacement of the existing 130-year-old reservoir.

As we continue with design, Staff would like to proceed with hosting a public meeting and reservoir tours to solicit comments to assist with the design process.

Mr. Billings introduced himself to the audience and discussed a presentation. The presentation is attached and incorporated as a part of the minutes of this meeting.

Mr. Billings advised that a public meeting would be held on December 15, 2016 at the FPB Clubhouse. He explained the history of Frankfort's water system and the reservoir. He noted that the current reservoir had been in service since approximately 1886. Mr. Billings advised that the reservoir was 60% of FPB's entire water storage and further explained the water distribution infrastructure currently located at the site.

Mr. Billings discussed upgrades to the reservoir over the years, issues with the reservoir and repairs that have made over the years. He advised that the reservoir was an earthen embankment which had no seismic design, that the roof and gunnite lining was deteriorating, and discussed ground slippage issues with the steep sloped exterior and recent seepage issues. He further discussed past repairs and mitigation, the monitoring program currently in place, and additional maintenance completed as a result of the monitoring program.

Mr. Billings explained that the reservoir had reached the end of its useful life, that the replacement had been scheduled since 2010 but was delayed due to upgrades to the Headend facility, and that the project was currently in the preliminary design phase.

Mr. Billings discussed options for moving, repairs and replacement, and the costs for each option. He further discussed the current water distribution system and the manner in which it works. He advised of the reasons that elevation is important and necessary for water distribution.

Mr. Billings advised that replacement at the current location would be the least expensive and least time option. He explained that the current replacement plan was to demolish the current structure one side at a time and erect one seven (7) million gallon ground storage tank at the current site. He further explained that a second seven (7) million gallon storage tank would be built at some time in the future as was necessary. He reviewed drawings of the conceptual plan for two seven (7) million gallon ground storage tanks that would be built within the existing reservoir footprint. He advised that the side closest to the Headend would be the first to be demolished and replaced. He further advised that a liner would be installed in the North basin to ensure stability and mitigate potential seepage during construction.

Mr. Billings advised that the project was currently in the conceptual design phase, that design was not complete, that there were aesthetic options available, and that Staff was open to suggestions. He further explained that a tour of the facility and public meeting to accept suggestions would be held at the FPB clubhouse on December 15, 2016 at 4:30. He advised that the estimated start of construction was scheduled for summer of 2017.

In response to Mr. Cubine, Mr. Billings discussed the difference in the flat roof versus a dome roof and the reason why the dome roof is preferred. He stated that the domed roof is stronger, is self-supporting with no internal structure, and is 50% less expensive than a flat roof.



In response to Ms. Rosen, Mr. Billings explained that Staff was pursuing a Federal loan program called SRF. He stated that grants had been available in previous years but over the last few years grant funds had not been available. He further noted that Staff was pursuing low interest loans and hopeful to obtain a loan with the potential for debt forgiveness.

In response to Mr. Cubine, Mr. Billings stated that he could request renderings from the engineering firm to show the dome roof versus flat roof for the benefit of the community. In response to Ms. Rosen, Mr. Billings stated that photos of other ground storage tanks in other communities could be obtained as well.

In response to Mr. Cubine, Mr. Billing stated that there were no concerns of imminent failure at the reservoir that would endanger residents or property in South Frankfort. He reiterated that a liner would be installed in the North basin to ensure stability and mitigate a potential seepage event during construction. He further stated that there was no evidence of any impending seepage or failure. He discussed professional engineering tests performed on the reservoir, which have given no evidence of leakage or failure currently or during construction.

Mr. Baldwin requested artist renderings for the December 15, 2016 meeting. Mr. Cubine requested that Mr. Billing's presentation be put on FPB's website for the public.

Mr. Billings stated that Staff would obtain renderings for the December 15 meeting, that Staff was considering presentations to the City, County and other public forums as well as a possible press release. He further advised that construction would need to begin by early in the 2017-2018 fiscal year.

Mr. Cubine suggested recording a walking tour to play on Cable 10. In response to Mr. Baldwin, Mr. Billings explained advertisement of the December 15, 2016 public meeting. Mr. Baldwin suggested to make an extra effort to advertise. Other suggestions included Cable 10 and website advertisements.

Mr. Baldwin suggested that Staff make an additional effort to advertise these types of presentations in the future to encourage more community involvement.

8. **Action Item: Consider Award of Bid Invitation #1626 for Underground Faulted Circuit Indicators to U&I Products in the Amount of \$32,802.**

Staff prepared an invitation for 231 faulted circuit indicators to be used throughout the underground electric distribution system. The invitation was publicly advertised and sent to eight vendors. Seven responses were received. After reviewing all the bids, staff recommends awarding to U&I Products, in the amount of \$32,802. U&I submitted the lowest bid that met the advertised specifications

The lowest bidder, Brownstown Electric Supply, failed to meet the following criteria of the specification:

- 1) The submitted part number includes a fixed trip current setting, A.1 of the specifications requires a trip setting that adjusts to load currents.
- 2) The submitted part does not reset after restoration of load current, which is required by A.2 of the specifications.
- 3) Information provided by the vendor does not list compliance with the latest IEEE standard, required by D.1 of the specifications.

The second lowest bidder, WESCO distribution, quoted a faulted circuit indicator that requires test point mounting. B.1 of the specifications requires a direct cable mount indicator. Test point mount indicators would not be practical at several of the locations where this equipment will be installed.



These faulted circuit indicators will aid in the isolation and restoration of damaged underground distribution equipment, reducing outage time experienced by our customers. This purchase is included in the 2016-2017 Capital Budget, line 360. The amount included in the budget for this project is \$77,807.

Mr. Cubine moved that Items 8, 9, 10, and 11 be handled as a consensus Item with a single vote. Dr. Green seconded. Mr. Poe called the vote by member and the motion passed unanimously approving Action Items 8, 9, 10, and 11.

9. **Action Item: Consider Award of Bid Invitation #1629 for a Line Puller and Tensioner to Brooks Brothers Trailers in the Amount of \$79,850.**

Staff prepared a bid invitation for the purchase of a line puller and tensioner. This item is used in the electric department to pull new conductor and will be replacing the 1989 model. Staff recommends awarding to Brooks Brothers Trailers in the amount of \$79,850. This cost includes the puller and tensioner (\$76,650), a canopy (\$1,200), a vinyl cover (\$500), and a hydraulic actuated payout brake (\$1,500). Brooks Brothers Trailers was the lowest bid meeting specifications. The invitation was sent to four vendors with four responses received.

\$124,700 is included for this purchase (and others) in the current budget. This information can be found on page 21, line 380 titled "Equipment Purchases".

Approved in Item 8.

10. **Action Item: Consider Award of Bid Invitation #1630 for two 15kV outdoor circuit breakers to Siemens Industry Inc. in the Amount of \$28,596.**

Staff prepared an invitation for two new 15kV circuit breakers for Bendix substation. The invitation was publicly advertised and sent to nine vendors. Two responses were received. After reviewing all the bids, staff recommends awarding to Siemens Industry, Inc. in the amount of \$28,596. Siemens submitted the lowest bid and met the specifications.

The low number of responses was anticipated by staff for this bid. Currently Siemens and ABB are the only manufacturers that offer a breaker with a magnetic actuator, which is included in the specification. It is the opinion of the electric department that magnetically actuated breakers are a necessary restriction as they require far less maintenance than their alternative.

This equipment purchase is necessary to replace existing breakers that have exceeded their expected useful life. This purchase is included in the 2016-2017 Capital Budget, line 295. The amount included in the budget for this project is \$62,700.

Approved in Item 8.

11. **Action Item: Consider Award of Bid Invitation #1631 for Spacer Cable to Brownstown Electric Supply Company in the amount of \$31,672.**

Staff prepared a bid invitation for the purchase of a spacer cable. This material will be used in the electric department to use on the Downtown Conductor Upgrade. Staff recommends awarding to Brownstown Electric Supply Company in the amount of \$31,672. Brownstown was the lowest bid meeting specifications. The invitation was sent to six vendors with four responses received.

\$108,376 is included for this purchase (and others) in the current budget. This information can be found on page 21, line 355 titled "Install Second Downtown Feed".

Approved in Item 8.



12. **Action Item: Consider Approving Stingray Music Renewal.**

Staff recommends approval of the Stingray Music renewal. This National Cable Television Cooperative (NCTC) agreement has a term through June 30, 2020. The initial rate reset is a slight rate reduction and the annual increases are all below budgeted projections. Stingray Music is a digital music service on the Preferred Cable tier, made up of 50 channels between channels 200 and 249. Stingray provides commercial-free digital music across all popular music and specialty genres. This new agreement maintains our existing VOD and TVE rights. No additional carriage requirements obligations are included in this agreement. The Assistant GM for Administration has reviewed the agreement and it meets with his approval.

Mr. Couch discussed specifics of the renewal. He advised that this was on the Preferred Tier which is an optional tier and that the costs had been budgeted. In response to Ms. Rosen, Mr. Couch stated that this was a popular group of channels.

Mr. Ludwig moved to approve the Stingray Music renewal. Mr. Cubine seconded. Mr. Ludwig called for the vote and the motion passed unanimously.

13. **Information Item: Update on status of NCTC Negotiations with Fox Cable for carriage of nine networks.**

The National Cable Television Cooperative (NCTC) is actively in renewal negotiations with Fox Networks for nine Fox networks and VOD (FX, FXX, NatGeo, NatGeoWild, FS1, FS2, FXM, Fox News and Fox Business). The negotiations for News/Biz have always been separate from the other Fox Networks but in this round of negotiations, Fox is trying to combine all of the networks into one big bundle – for one price. The current agreements for all of these networks expires in 12/31/16. The proposed agreement has a term through June 30, 2020.

As of November 9 -- the current offer of combining all of the networks for one price is anti-consumer.

- Consumers are cord cutting and cord shaving and demanding more choice and lower cost video alternatives -Fox's demands for dramatically increased fees and forcing consumers to pay for additional and largely unpopular channels is unreasonable and anti-consumer. For FPB – the current ask by Fox would require FPB to move 4 channels from the optional Preferred tier to the basic tier and force consumers to pay for the low-rated channels.
- License fee increases that are more than 50% in the first year, are unsustainable and unwarranted.
- Fox is limiting consumer choice by forcing subscribers to buy less popular programming to get the more highly rated programming

The NCTC Board instructed the NCTC staff to continue negotiations but to seek dramatic relief in the anti-consumer offer now on the table. As negotiations proceed, FPB staff will relay info to the FPB Directors.

Concurrently – FPB staff is renegotiating a direct agreement with Fox for Fox Sports Ohio, Big 10 Network and YES Network – Fox Cable will not negotiate these regional networks with the NCTC so FPB staff must complete these agreements individually. That negotiation is progressing and staff expects to have this agreement completed and to the Board for consideration at the December meeting. The term for these channels also expires on 12/31/16.

Mr. Higginbotham explained ongoing negotiations between the NCTC and FOX Networks. He stated that the concept of bundling channels had been dropped and advised that significant rate increases and forced carriage of less popular channels on the Classic Tier were still being negotiated. He stated that the rate increase requested from FOX was more than a 50% increase in the first year. Mr.



Higginbotham stated that the expectation was that negotiations would go down to the wire and that he would provide updates to the Board as the information became available. He stated that the current agreement expires on December 31, 2016 and that the term on the new agreement would run through June 30, 2020.

Mr. Higginbotham advised that Staff was also working on negotiating a direct agreement for FOX Sports Ohio, Big Ten Network and YES. He further noted that these agreements expire December 31, 2016.

14. **Action Item: Consider Mitigation of Tanglewood Issues.**

At the City of Frankfort's special meeting regarding the headend building on August 23, 2016, the City Commission called upon FPB to:

1. Remove parking structure, but keep the generator.
2. No bucket trucks or large commercial vehicles except for emergencies or construction.
3. Use of path lighting only, except on the building.
4. Landscape and fence the area per Inside Out Design including the removed parking area where practical.
5. If Frankfort Plant Board continues to develop on any city property in the future, FPB must gain approval of the Planning and Zoning Commission.
6. Explore the possibility of burying the power line adjacent to the fence so that the landscaping can be enhanced.

Staff has compiled cost data related to the mitigation steps and will present their findings. Staff has budgeted \$850,000 for mitigation steps, which can be found on page 20, line 120 in the companywide section of FPB's 2016-2017 budget.

Mr. Bannister discussed details of a presentation for mitigation at the headend property. He explained the requests made by the City Commission and noted that burying power lines was no longer an issue.

Mr. Bannister discussed options and pricing for demolition and removal of the parking structure, and demolition and removal of the old headend building. In response to Mr. Cubine, Mr. Nickerson explained pricing for demolition and removal of the parking structure. Mr. Bannister further noted that FPB Staff would demolish and remove the old headend building. In response to Mr. Cubine, Mr. Nickerson explained additional parking to be added once the old building is demolished and removed.

Mr. Bannister explained options and pricing for fencing and landscaping at the headend and reservoir property. Mr. Bannister explained the linear length of the area to be fenced and noted that the total area to be fenced was just over 2,000 feet. He further advised that the cost estimates being discussed at this time included 1,100 linear feet. Mr. Bannister explained the points where this portion of fence would begin and end. In response to Mr. Cubine, Mr. Bannister advised that the remainder of the fencing would be installed once the construction of the new reservoir was completed and would be at an additional cost. Mr. Bannister advised that the landscaping estimate would increase in order to landscape the area where the parking structure is located once that structure is removed. Mr. Bannister reiterated that it was his understanding that burying of utility lines was no longer an issue.

Mr. Bannister reviewed the total cost estimates of each option. Mr. Ludwig requested confirmation that FPB budgeted \$850,000 for Tanglewood mitigation and Mr. Bannister confirmed that amount. In response to Mr. Cubine, Mr. Nickerson stated that the market was good for contractors at this time and that they were not looking for work. He further advised that it would be difficult to speculate on whether bidding would reduce or increase the cost estimates. Mr. Nickerson reiterated that this price was only for 1,100 feet of fencing and that additional fencing would need to be done at an additional cost to FPB at the conclusion of the reservoir construction. He further advised that the fencing prices came directly from the fence suppliers plus labor



estimates, and overhead and profit. In response to Mr. Cubine, Mr. Nickerson stated that it would be difficult to speculate on the number of bids received and that bidding would depend on the bid specifications. In response to Mr. Baldwin, Mr. Bannister stated that FPB did not have the staff to demolish the existing fence. Mr. Bannister stated that he believed the landscape contracts would be separate from the demolition and fencing contracts. Mr. Bannister further advised that construction would begin on the reservoir about the same time demolition would begin on the parking structure and fencing at the Headend.

Mr. Cubine discussed the proposed steps as disseminated to the Board members. Mr. Ludwig suggested that the Board consider the proposed steps item by item. Mr. Cubine noted that his proposed steps were based on nine (9) items before the Board as directed by the City Commission and to keep in mind that the Board is spending the rate payers' money. He noted that he believed improvement at the headend site would make a positive impact on the City due to the location of the neighborhood at the entrance of the City, as well as improving aesthetics at the Clubhouse property for potential rental once all construction is complete. Mr. Cubine suggested that the Board consider the nine (9) items either individually or as an omnibus motion and set a total budget for the project.

Dr. Green moved to consider each line item one at a time. Mr. Ludwig seconded.

Item No. 1: Mr. Cubine moved to remove the lower parking lot referred to as garage.

Dr. Green stated that he was opposed to tearing down the parking structure due to potential damage to the headend and equipment inside, cost and responsibility to rate payers and because pine trees can be planted to hide the parking structure. Mr. Ludwig stated that he shared Dr. Green's concerns and that alternatives through landscaping and fencing would be sufficient. He noted that he could not justify tearing down a structure that was just built. Ms. Rosen pointed out that the parking garage was not a building but a support for parking. She further noted that parking the vehicles there is really the issue or a component of the issue. She stated that FPB was in a poor position because the neighborhood does not like the parking structure and that FPB had to do something to improve that. Mr. Ludwig stated that it could be done with landscaping and fencing.

In response to Ms. Rosen, Mr. Nickerson stated that the intention of design of the new headend building was to withstand a much higher level of vibration than the previous building but there was no way to be certain that the new building, the equipment or the outside infrastructure would not be damaged during the demolition of the parking structure. He stated that testing could be done and assumptions could be made based on the design of the new building, but there is no guarantee that equipment and infrastructure would not be damaged. In response Mr. Cubine, Mr. Nickerson stated that part of the reason for the new building was for the equipment to be able to withstand construction at the reservoir. He further advised that the testing done prior to construction of the headend was based on the ground and bedrock values at the reservoir over distances anticipated for jack hammering or hoe ramming for demolition on the existing reservoir. Mr. Nickerson further advised that disturbances caused by demolition of the existing reservoir should be much less than those caused by demolition of the existing parking structure.

Mr. Baldwin seconded Mr. Cubine's motion.

Ms. Poe called the vote by member and the motion passed with a 3-2 vote. Mr. Cubine, Mr. Baldwin and Ms. Rosen voted "Yes". Dr. Green and Mr. Ludwig voted "No".

Item No. 2: Mr. Cubine moved to remove the newly erected light poles. Mr. Baldwin seconded.



In response to Mr. Ludwig, Mr. Bannister stated that the lights had not been in use since the neighborhood indicated they had concerns over the lights and that they can be removed.

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

Item No. 3: Mr. Cubine moved to provide new fencing along the perimeter of the Tanglewood property. The fencing along Tanglewood and residential property would be supported by masonry base and metal fencing. A portion of the current fencing would not be replaced per owners' request which would actually be not included in what we are doing here, but completed after the reservoir project is completed. The final design of the fencing shall be selected by TNA within total budget adopted for project. FPB shall provide designs to TNA and TNA may submit designs for pricing and a recommendation shall be due within 60 days from the date of this vote. Mr. Cubine later specified that the motion for 1,100 feet of fencing. (Omnibus budget, TNA to look at various proposals/designs within the budget to pick something within the total dollar amount approved.) Mr. Baldwin seconded.

Mr. Ludwig stated he was fine with it as long as the cost stayed within the total budgeted amount. In response to Ms. Rosen, Mr. Cubine suggested deciding on a budget once all actions were decided.

Ms. Poe called for the vote by member and the motion passed unanimously.

Items No. 4 & 5: Mr. Cubine moved to provide landscaping for the facility including some type of barrier for vehicle parking area; and that the RFP review committee for fencing and landscaping shall include representation from Tanglewood Neighborhood Association. Ms. Rosen seconded.

Ms. Poe called the vote by member and the motion passed unanimously.

Item No. 6: Mr. Cubine moved to adopt a budget for entire project and the General Manager shall have the discretion after the award to allocate funds in consideration of recommendations by TNA to the fullest extent possible. Mr. Cubine explained that the General Manager can move money however necessary to complete the project. Mr. Cubine further proposed a total budget of \$860,000 for the project to cover everything: the fence, landscaping, removing parking structure and lights, and giving the General Manager the discretion to spend money as necessary to complete all project items.

Mr. Denton confirmed that there was \$870,000 in the current fiscal year budget for Tanglewood mitigation.

Mr. Ludwig seconded.

In response to Mr. Bannister, the Board consensus was the General Manager should be to move forward with amendments to the GRW and landscaping contracts and provide monthly updates to the Board.

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

Item No. 7: Mr. Cubine made a motion for only vans and light duty trucks shall be parked on property on nights and weekends. Mr. Cubine clarified the motion stating that bucket trucks and commercial vehicles would only be at the facility as needed during the normal course of business when they have to be there to do their work but would not be parked there on nights and weekends. Mr. Baldwin seconded.

Mr. Ludwig noted his concern with restricting company vehicles at the site and stated that the front area around the electric substation should not be restricted.



In response to Ms. Rosen, Mr. Higginbotham advised that staff must be able to utilize the facility and that FPB had utilized that facility for more than 50 years. He noted that in recent weeks FPB has spent an additional 10 personnel hours per week transporting employees back and forth to the headend during the day for work.

Mr. Ludwig noted that he was against any restrictions on parking vehicles on the headend property stating that it is working against efficiency and is unreasonable.

Ms. Poe called the vote by member and the motion passed with a 3-2 vote. Mr. Cubine, Mr. Baldwin and Ms. Rosen voted "Yes". Dr. Green and Mr. Ludwig voted "No".

Item No. 8: Mr. Cubine moved to direct General Manager to contact City Manager to schedule monthly meetings to discuss major planned FPB construction projects to facilitate comments and coordination. Mr. Baldwin seconded.

Mr. Ludwig and Dr. Green advised that this was already being done.

Ms. Poe called the vote by member and the motion passed with a 3-2 vote. Mr. Cubine, Mr. Baldwin and Ms. Rosen voted "Yes". Dr. Green and Mr. Ludwig voted "No".

Item No. 9: Mr. Cubine moved that the General Manager shall provide a project timeline to TNA and shall provide a monthly update to the Board of status. Mr. Baldwin seconded. Ms. Poe called the vote by member and the motion passed unanimously.

## **RECESS FPB – CONVENE MPC**

Mr. Ludwig called for a vote to recess the meeting of the FPB Board of Directors and convene the meeting of the Municipal Projects Corporation. The vote was unanimous and the Municipal Projects Corporation convened its meeting.

15. **Action Item: Conduct Election for Secretary/Treasurer of the Frankfort Plant Board Municipal Projects Corporation.**

The most recently elected Officers of the Frankfort Plant Board Municipal Projects Corporation consist of Board Members and Staff. The current Officers are: President, Anna Marie Rosen; Secretary/Treasurer, Rick Pogrotsky; and Vice President, Walt Baldwin. Because Rick Pogrotsky is no longer a FPB Board member, the office of Secretary/Treasurer is now vacant. The terms of the current officers expire May 1, 2018.

Article VII of the Corporation's Articles explains that the Corporation has five directors. These Directors are the Frankfort Plant Board's Board members. FPB Board members continue to serve as Directors of the Municipal Projects Corporation as long as they are members of the Board. Upon leaving the Board, the Board member automatically ceases to be a Director of the Corporation. Thereafter, the new Board member assumes the directorship.

Article X notes that the Corporation shall have a President, Vice President, Secretary and Treasurer (which Secretary and Treasurer need not be a Director and may be the same person) each of whom shall be elected or appointed by the Board of Directors for such term, not exceeding three (3) years.

Staff respectfully requests that the Directors of the Corporation move to elect a Secretary/Treasurer to fill the current vacancy. The term of the Secretary/Treasurer would run through May 1, 2018.

Mr. Liebman stated that the Board members for FPB are the same Board members for the FPB Municipal Projects Corporation (MPC). He explained the office terms



and the vacancy for the office of Secretary/Treasurer due to the change in Board members.

Mr. Liebman opened the floor to nominations for the office of Secretary/Treasurer. Ms. Rosen nominated Dr. Green for the office of Secretary/Treasurer. Mr. Baldwin seconded. Mr. Baldwin moved to close the nominations. Mr. Ludwig seconded. Mr. Liebman called the vote to close nominations and the motion passed unanimously.

Mr. Liebman called for the vote to elect Dr. Green to the office of Secretary/Treasurer of the Municipal Projects Corporation and Dr. Green was elected by a unanimous vote.

## **ADJOURN MPC – CONVENE FPB**

Ms. Rosen moved to close the meeting of the Municipal Projects Corporation. Mr. Cubine seconded. Ms. Rosen called for the vote. The motion passed unanimously. The meeting of the Municipal Projects Corporation adjourned and the meeting of the FPB Board of Directors reconvened.

16. **Action Item: Conduct Election for Vice Chair for the Board of Directors of the Frankfort Plant Board.**

The most recently elected officers of the FPB Board of Directors are: Chairman, Ralph Ludwig; Rick Pogrotsky, Vice Chair; and Dr. Scott Green, Secretary/Treasurer. Because Rick Pogrotsky is no longer a FPB Board member, the office of Vice Chair is currently vacant.

Staff respectfully requests that the Board move to elect a Vice Chair to fill the current vacancy. The newly elected Vice Chair will serve the remainder of former Vice Chair, Rick Pogrotsky's which will run through October, 2017.

Mr. Liebman noted that the successful candidate for the office of Vice Chair of the FPB Board of Directors would fulfill the remainder of the term through October 2017. He opened the floor for nominations for the office of Vice Chair.

Dr. Green nominated Mr. John Cubine. Mr. Cubine nominated Mr. Walt Baldwin. Ms. Rosen moved to close nominations. Dr. Green seconded. Mr. Liebman called for the vote to close nominations and the motion passed unanimously.

Ms. Poe polled the Board individually by member. Mr. Walt Baldwin was elected Vice Chair of the FPB Board of Directors by a 3-2 vote. Mr. Cubine, Mr. Baldwin and Ms. Rosen voted for Mr. Baldwin. Mr. Ludwig and Dr. Green voted for Mr. Cubine.

17. **Action Item: General Manager Evaluation.**

Mr. Ludwig explained the process and turned the discussion over to Mr. Liebman. Mr. Liebman further explained that preliminary evaluations were completed by each Board member and given to him. He explained the process of compilation for the consensus evaluation. He advised that Mr. Cubine did not participate and that Mr. Pogrotsky did participate.

Mr. Liebman explained Mr. Bannister's consensus evaluation for 2016. He noted that the evaluation overall was favorable and that under the scoring system in place would be considered the score of Meets Expectations Plus. Mr. Liebman stated that there were positive performance comments as well as constructive criticisms in areas to be improved.

Mr. Liebman noted that the current system was flawed and seemed unfair and suggested that the Board look at the procedure to make any improvements as the Board deems necessary in the future.



Mr. Cubine suggested that Mr. Liebman bring to the Board in the near future some ideas or suggestions for improving the procedure. Mr. Ludwig noted that he was also not happy with the process and would like to see some changes that would stay within the parameters of the Attorney General opinions regarding preliminary documents. Mr. Ludwig further noted that he would like Staff's input as well. Mr. Cubine suggested to look at models maybe with the State government or the school system. Mr. Ludwig suggested that maybe Human Resource department could review with Mr. Bannister a part of the discussion. Mr. Baldwin suggested that all comments be put into a consensus and disseminated to the Board for review.

Mr. Ludwig discussed Mr. Bannister's contract as well as salary increases and contract extensions given to Mr. Bannister in the past. He further noted Mr. Bannister's current annual salary and explained the parameters by which the Board can consider for a salary increase and/or contract extension. Mr. Baldwin noted that he would prefer to defer the discussion to the December meeting to allow them time to review and reflect on the results of the consensus. Mr. Ludwig stated that the item would be deferred until the December Board meeting.

Mr. Ludwig asked if the Members wanted to discuss goals for Mr. Bannister. Mr. Baldwin stated that he would like to defer that discussion to the December meeting as well and Ms. Rosen agreed.

18. **Old & New Business:**

**Item 1:** Mr. Baldwin moved to direct Staff to review options with network access control and bringing fiber to these hub buildings and the wireless access points for Frankfort Independent Schools with the idea of that being a pilot project to eventually roll out into high occupancy buildings to generate additional revenue to provide that service to the customers and to the students of Frankfort Independent School. At the request of Mr. Higginbotham, Mr. Baldwin defined high occupancy buildings in the Frankfort Independent School building as McClure building and hotels that house more than a dozen potential new customers. Mr. Baldwin further stated that this would provide higher quality internet access in the hub sites for Frankfort Independent School students, that FPB would have the potential to generate a new revenue stream from the wireless access points, and would allow FPB an authentication mechanism to limit student use to their devices. In response to Mr. Higginbotham, Mr. Baldwin stated that he would like Staff to amend what has already been discussed with Frankfort Independent Schools.

Mr. Higginbotham stated that a vote was necessary in order to move forward with the City. He further noted that he did not know what this would cost and that Frankfort Independent Schools had a budget of no more than \$60,000 for this project. Mr. Baldwin stated that his expectation was that this would have a minimal effect on the overall budget.

Mr. Cubine amended the motion stating that FPB Board was in support of the initiative of Frankfort Independent Schools with a recommendation to pursue an enhancement as described above by Mr. Baldwin. Ms. Rosen seconded. Ms. Poe called the vote by member and the motion passed with four "Yes" votes and one abstention. Dr. Green abstained and Mr. Cubine, Mr. Baldwin, Ms. Rosen and Mr. Ludwig voted "Yes".

**Item 2:** Mr. Baldwin expressed his pleasure with the water distribution at community events with the water monsters and would like to see a pilot project to look at placing water fountains/water bottle fill stations in public areas in the community. He further explained benefits for the community and distributed photos of examples of fountains that could be considered.

Mr. Baldwin moved to direct Staff to pursue a pilot program and select some initial sites for the program to install public water fountains. He clarified that he would like staff to put together a structure for a pilot project to explore placement of water fountains in various locations around the City. He further noted that he assumed this



would be a cooperative effort with the City and added that he would like for Staff to come back to the Board within 60 days to discuss further. Mr. Foster stated that Staff could bring it back to the Board for the January Board meeting.

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

**Item 3:** Mr. Baldwin requested a status update regarding consultants to review a path forward for fiber and HFC. Mr. Higginbotham advised that the RFP went out in October, closed on November 4, 2016, that Staff is evaluating responses, and that he hoped to have a recommendation to the Board in the December meeting. Mr. Baldwin requested that the responses be circulated to the Board.

In addition, Mr. Baldwin requested an update regarding node splits and ongoing improvements at the headend. Mr. Hellard explained the status of node splits and additional work to be completed in the coming days and weeks.


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

20. **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.

No closed session needed.

21. **Closed Door Session:**

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



ATTEST:





## Presentation to the Frankfort Plant Board

Regarding Questions Raised by

EnvisionFranklinCounty and Synapse Energy Economics

Concerning the

AR Contract and KyMEA Power Supply Portfolio \*

November 15, 2016

\* See the presentation to the FPB by EnvisionFranklinCounty dated November 1, 2016 (the "EFC Presentation"), with the attached Synapse Energy Economics ("Synapse") report titled "Review of Frankfort Plant Board's All Requirements Contract & KyMEA's PPAs" of the same date (the "Synapse Report").

DRAFT v5 of 11/11/2016

### Goal of Presentation:

Review Answers to Key Concerns in the Following Areas Raised in the EFC Presentation and the Synapse Report



Response to EFC Presentation and Synapse Report - DRAFT v5 of 11/11/2016



## KyMEA and FPB Advisors

All have Very Extensive Experience with Joint Action Municipal Power Agencies and Their Power Supply Programs



John Painter  
Fred Haddad Jr.  
Bob Davis



Brown Thornton



Tom Trauger  
Margaret McGoldrick



Rubin & Hays  
ATTORNEYS AT LAW

Charlie Musson



Michael Mace

Response to EFC Presentation and Synapse Report - DRAFT v5 of 11/11/2016

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## Topic 1: Process

FPB's consideration of power supply alternatives has been extensive and has benefited from working with the other KyMEA Members

1. The Frankfort Plant Board (FPB) decided in 2014 to provide notice to terminate its agreement with KU after hiring independent consultants with the other 11 KU wholesale customers to help evaluate whether more attractive options likely would be available.
2. From July 2014 through May 2015, the group considered major options, such as
  - Forming an agency to assemble a portfolio
  - A special arrangement proposed by OMU
  - Joining a large, existing joint action agency that would assemble a portfolio for the Members
3. In mid 2015, FPB participated in the creation of the Kentucky Municipal Energy Agency ("KyMEA" or "the Agency") in order to work with the other KyMEA Members to obtain a more economical, diverse, flexible, and environmentally responsible power supply for the benefit of Frankfort residents and businesses.
  - During the past year, under the direction of FPB and the other KyMEA municipal members, the Agency conducted two competitive power supply procurements and extensive analyses of alternatives.
  - By acting together, FPB took advantage of the larger group's purchasing power in successfully assembling just such a supply portfolio.

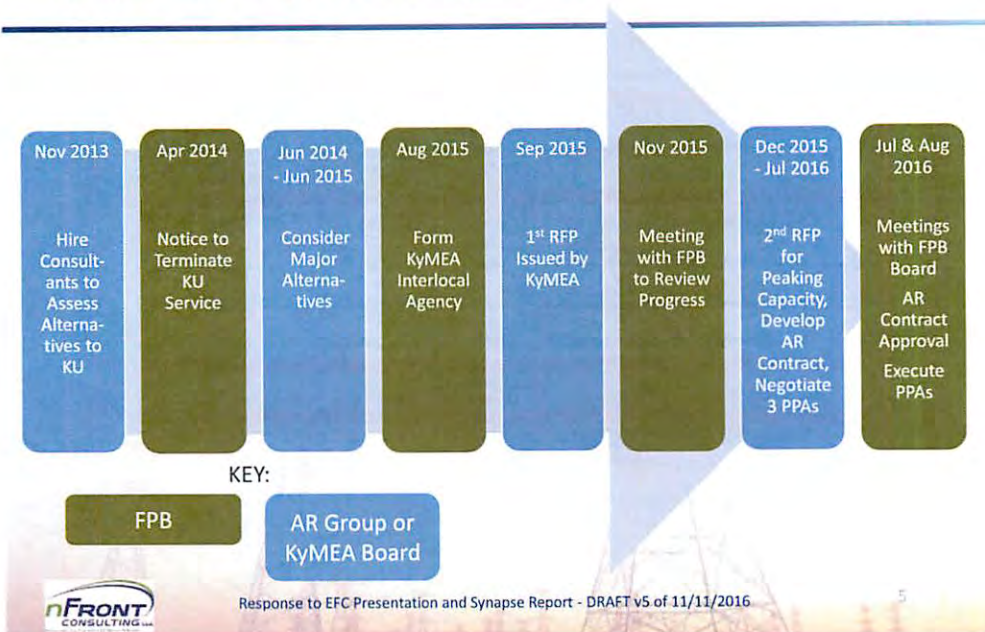


Response to EFC Presentation and Synapse Report - DRAFT v5 of 11/11/2016

4



## Key Milestones in FPB's Process of Developing its New Power Supply Arrangements



## KyMEA Received Numerous Proposals in Response to its September 2015 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 to extend to 20 yrs.
  - > Unit, System or Reserved Power
  - > Del. Point - LGE/KU or MISO
- Combined Cycle – Efficient Natural Gas Fueled Resource**
  - > New Large Plant
  - > 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

#### Other Resources

- Peaking Resources**
  - > 3 Proposals for CTs
  - > Direct Firing to 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



## KyMEA also Received Numerous Proposals in Response to its April 2016 RFP

### RFP – Overview of Proposals - Optionality

Number	Provider	Resource	Term	Capacity Amounts	Fuel
1	Paducah	CT - Aero	Extendable beyond 10 yrs. "at neg. price"	Can nominate lower amount down to 30 MW beginning year 4	Seller will supply gas, Buyer can supply and use Seller's firm transportation at incremental cost
2A	Dynegy/IPMC	CT - Joppe Frame 6B	NA	NA	NA
2B	Dynegy/IPMC	Coal - Joppe priced LD Energy - Variable Energy Price	NA	NA	NA
2C	Dynegy/IPMC	Coal - Joppe priced LD Energy - Fixed Energy Price	NA	NA	NA
2D	Dynegy/IPMC	CT - Joppe Frame 7B	NA	NA	NA
3	Big Rivers	CT - Reid	Neg. extension to 10 years	NA	NA
4	BP	HR Call Option - LD Energy Only - No Capacity Included	NA	NA	NA



Summary - Peaking Capacity Proposal Evaluation - May 26, 2016 - Confidential - See Slide 2

Figure 1- Overview of Proposals Received



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## Topic 2: Benefits to FPB

	As Customer of KU	KyMEA Benefits FPB Working Collaboratively With Other Municipal Systems
Control of Future Power Supply Situation and Power Supply Costs	<ul style="list-style-type: none"> <li>➤ No Control over Decisions</li> <li>➤ Subject to KU's Formula Derived Cost of Service</li> <li>➤ Recourse: FERC Complaints</li> </ul>	<ul style="list-style-type: none"> <li>➤ Potential for Substantially Lower Power Costs</li> <li>➤ Collaboratively Plan</li> <li>➤ Recourse: Discuss with other Members, Weighted voting</li> </ul>
Reliance On Coal	Projected to Remain Very High through 2029 and Beyond	<ul style="list-style-type: none"> <li>➤ Less Reliance on Coal through 2029</li> <li>➤ Additional flexibility after 2029</li> <li>➤ Expected to be less exposure to CPP costs than as customer of KU</li> </ul>
Opportunities to Use Member-Owned Resources	Practically --- None	<ul style="list-style-type: none"> <li>➤ AR Contract Provides for KyMEA to Facilitate Member-Owned Resources</li> <li>➤ Increased benefit to FPB from SEPA Entitlement</li> </ul>
Opportunities to Encourage Customer Efficiency Programs	Not Constrained	Not Constrained, KyMEA Can Assist
Opportunities to Use Renewable Resources	Practically -- Limited to Net Metering	KyMEA and/or Members can Choose to Develop Renewables



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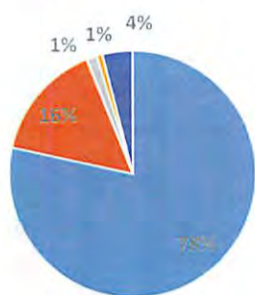
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### Cost of Power is Very Important to FPB Electric Customers

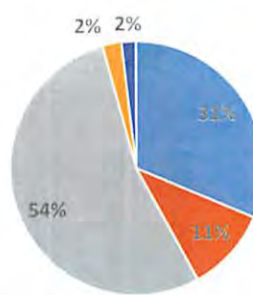
67% of Energy Sales are to Industrial, Commercial, and Municipal Customer Groups, and the Residential Customer Group includes low income customers, *all of which are price sensitive*

FPB Provides Service to Approximately 21,000 Customers



■ Residential ■ Commercial  
■ Industrial ■ Municipal  
■ Sec. Ltg. & Misc.

54% of Energy Sales are to Industrial Customers, including State Government



■ Residential ■ Commercial  
■ Industrial ■ Municipal  
■ Sec. Ltg. & Misc.

Prepared by NewGen Strategies & Solutions, LLC



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### Projected Effect on FPB's Cost of Power

The projected impact of the proposed KyMEA portfolio on FPB's costs of power is very favorable

1. **KyMEA is well positioned, and is highly likely, to have a significant and sustainable competitive advantage relative to KU through the 2020s**
  - in terms of both capacity and energy related costs
  - under a wide range of future circumstances
2. **The potential competitive cost advantage KyMEA provides to FPB is very significant and important to FPB and its residential, commercial, and industrial customers**
  - Potential for \$Millions in lower costs each year in the 2020s
3. **KyMEA has rights to extend key contracts beyond 2029, which positions KyMEA well to continue that advantage into the 2030s**

1. *The following slides show representative projected comparisons of KyMEA's costs to KU's costs under a consistent, reasonable, and, in key respects, conservative set of assumptions about future conditions.*
2. *Because future costs are dependent on many factors, it would be a mistake to focus on a single percentage or dollar amount of projected benefit.*

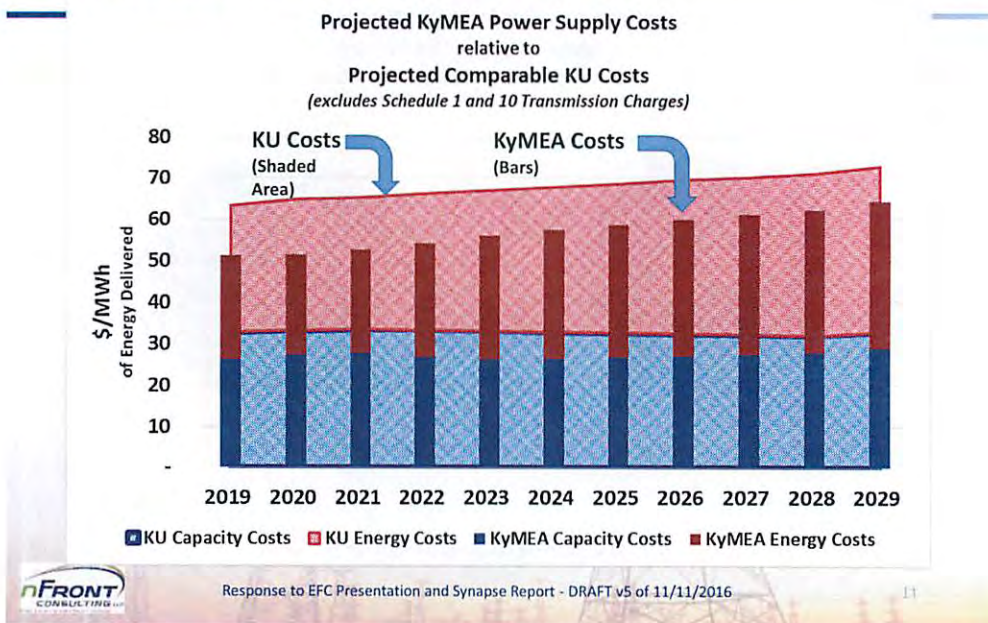


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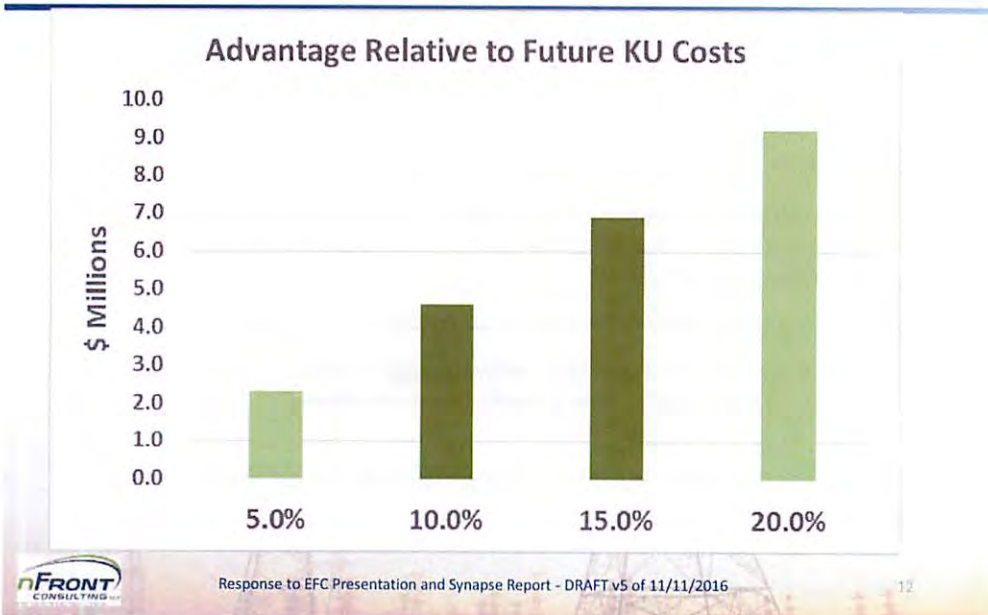
10



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



### Potential Annual Benefits of Lower Projected Future Power Supply Costs -- Very Significant for FPB and the Frankfort Community





### Topic 3: KyMEA's Resource Mix

KyMEA's planned resources mix is diverse and flexible. The PPAs provide KyMEA significant flexibility to adapt as future conditions change.

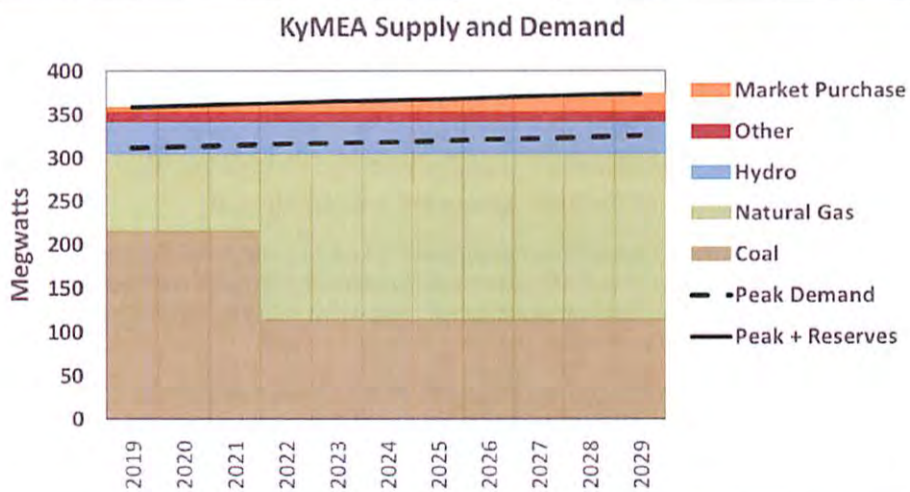
1. **KyMEA is developing a diverse portfolio of resources that use coal, natural gas and water to produce electricity.**
  - o KyMEA has entered PPAs for coal and peaking capacity resources and has committed to enter agreements to use the Members' SEPA Entitlements in its portfolio.
  - o KyMEA is currently working to add a PPA for one or more natural gas fueled combined cycle resources ("NGCC") -- commencing by June 2022.
2. **KyMEA is positioned with considerable flexibility to adapt capacity resources if peak demands prove to be lower than current forecasts or KyMEA or Members choose to provide capacity from renewables.**
  - o Through May 2019, KyMEA can provide notice to reduce the capacity to be purchased from Paducah beginning June 2022 by as much as 60 MW.
  - o The portfolio is now being constructed to meet most, but not all, of KyMEA's currently forecasted peak demand requirements through May 2029.
  - o KyMEA is not constrained from remarketing capacity purchased under the PPAs.
3. **The KyMEA portfolio includes hour-by-hour scheduling flexibility to accommodate more economical sources of energy or renewable energy purchases from**
4. **additional sources.**

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### KyMEA's All Requirements Power Supply Portfolio is a Diversified Mix of Capacity from Coal, Natural Gas and Renewable Resources

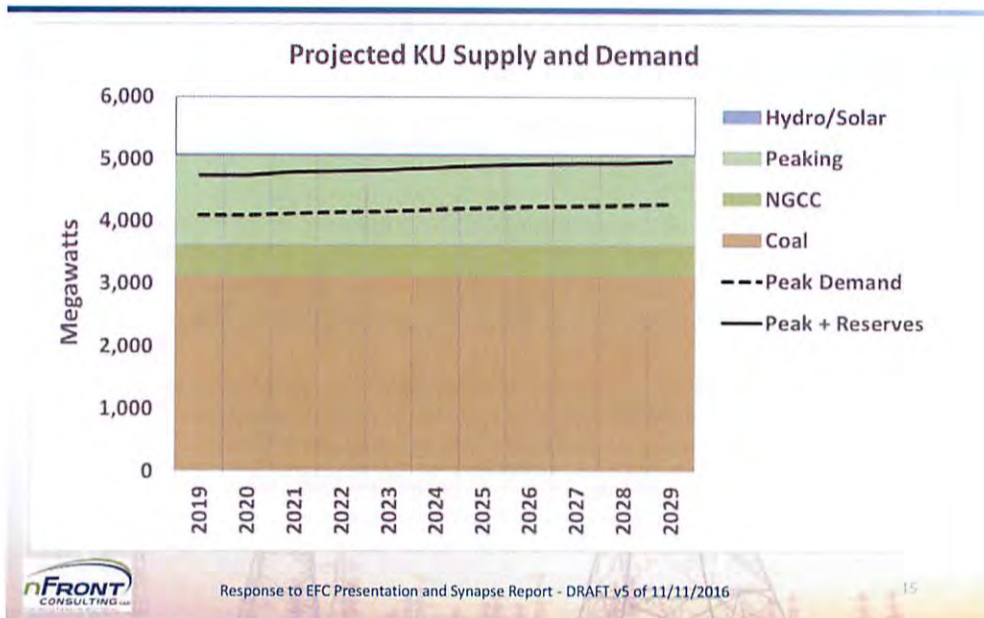


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**KU's Portfolio is Projected to Remain Heavily Dependent on Coal Capacity through the 2020s – with a Very Minor Renewable Component**



**Topic 4: Coal Resource Related Risks**

The coal related risks have been well managed in the PPAs and are expected to be less than had the FPB remained a wholesale customer of KU.

**1. Pricing in the PPA with IPMC (Dynegy) will not increase:**

- a. Because of the costs to IPMC of complying with environmental rules mentioned by Synapse; or
- b. In the event other new environmental regulations are promulgated.

**2. While the terms of the BREC agreement are confidential:**

- a. Big Rivers is already in compliance with all existing regulations regarding management of coal ash, wastewater, and other pollutants and does not anticipate any associated additional costs which could impact the KyMEA PPA; and
- b. The Clean Power Plan requires states to reduce CO<sub>2</sub> emissions by 32%. The idling of BREC's Coleman Station has reduced the carbon footprint of Big Rivers by 33%. Big Rivers has the flexibility to either restart Coleman or utilize it as one of its CPP compliance options. In that regard, it is much better positioned than many other generators.





## The AR Contract Provides Significant Flexibility to Develop Resources that Meet the Priorities of KyMEA's Members

### The AR Contract Provides for 5 Types of Resources:

#### ➤ KyMEA Resources

1. Portfolio Resources – like BREC, IMPC, Paducah and NGCC PPAs
2. Generation Resource Projects
  - Projects that may involve less than full participation by the KyMEA Members
  - Projects that would be financed by KyMEA

#### ➤ Local Resources by FPB or Other Members

3. Member-Owned Resources
4. Customer Resources
5. Efficiency Programs



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## Topic 5: Local Initiatives

Provisions in the AR Contract facilitate FPB development of renewable and other resources and efficiency programs

### 1. Nothing in the AR Contract prevents responsible actions by FPB with respect to:

- FPB resources, such as SEPA, community solar or direct load control
- Customer resources
- Energy efficiency programs

### 2. The AR Contract

- Provides multiple avenues for FPB and other members, individually or collectively, to adopt energy efficiency programs and to develop renewable or other resources.



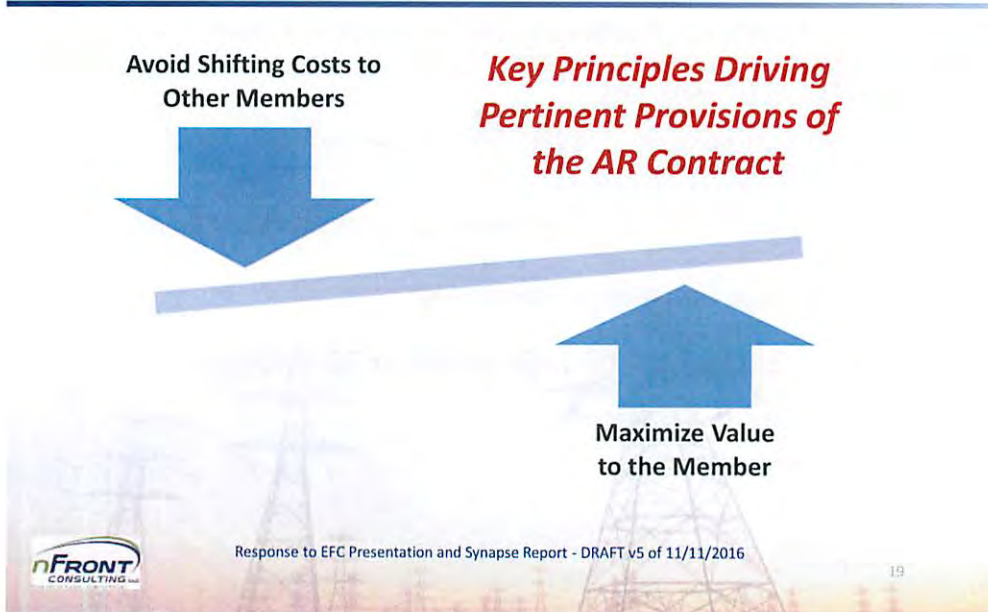
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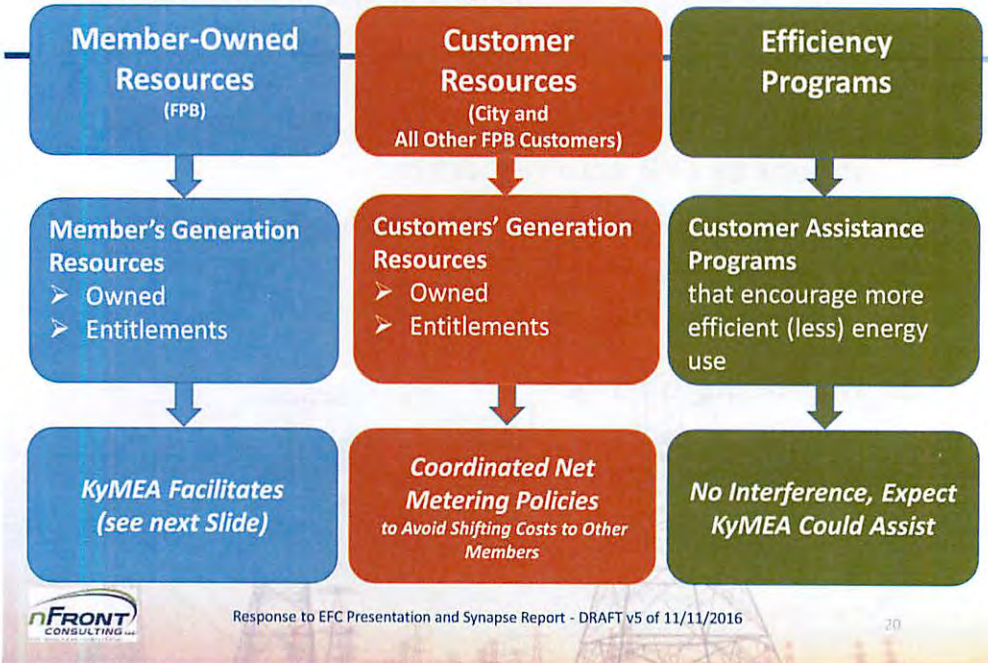


## AR Contract Provisions Pertaining to Local Resources

Balance Competing Principles

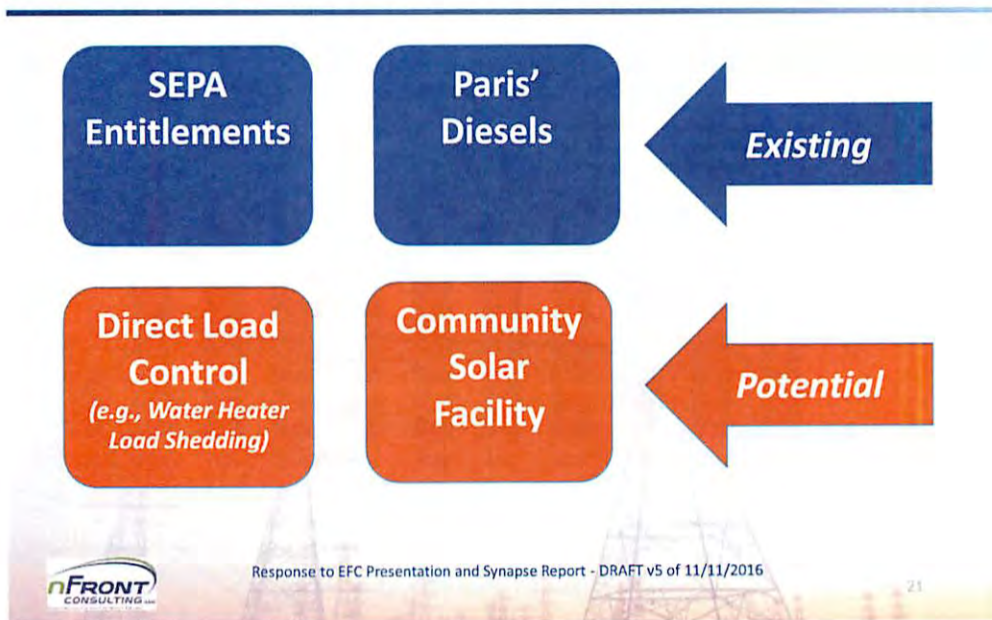


## AR Contract Provisions Separately Deal with Three Key Situations Pertaining to Local Resources and Programs

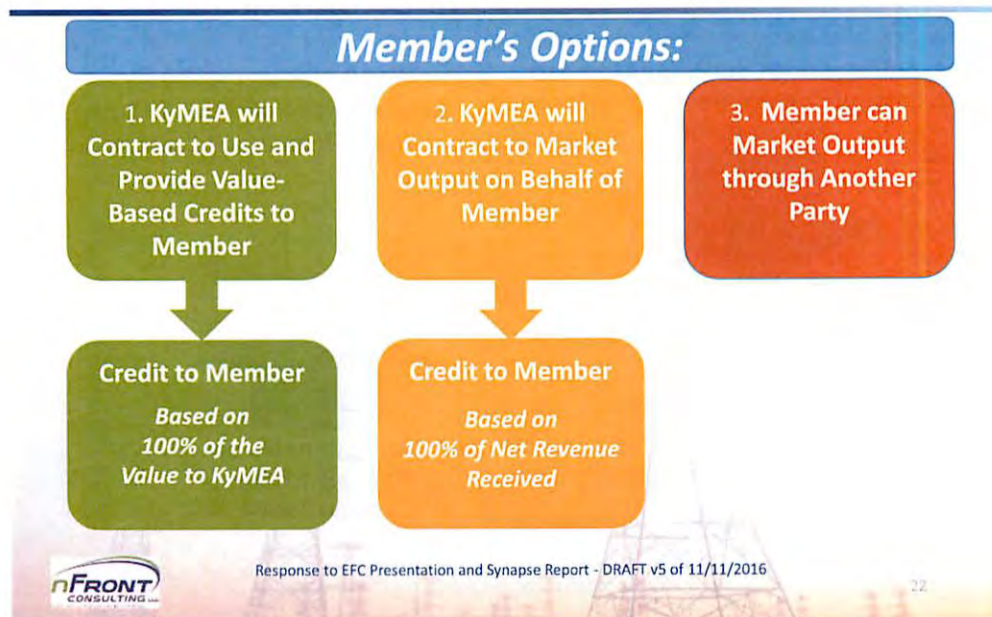




### Member-Owned Resource Examples



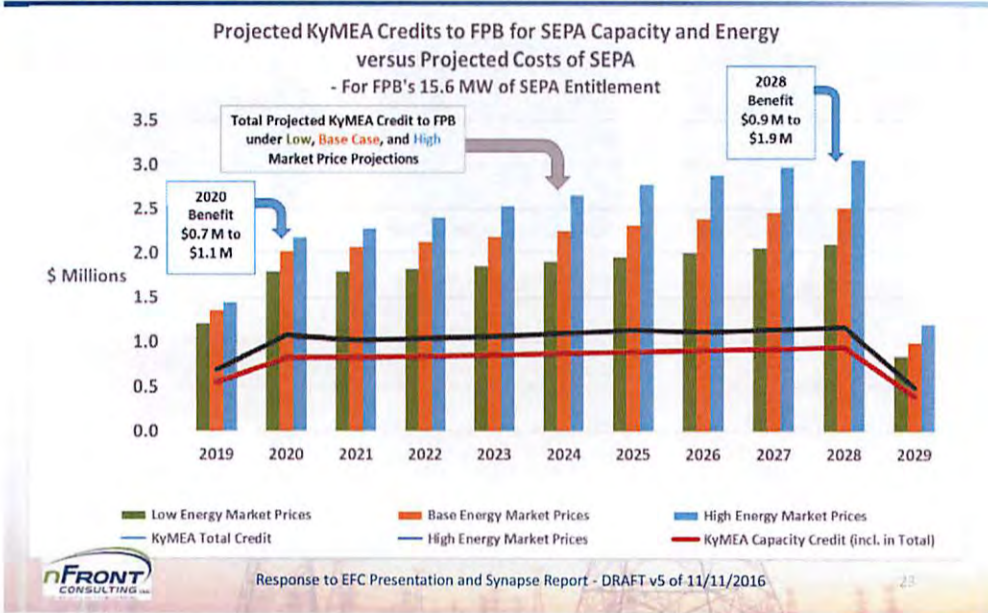
### The All Requirements Contract Provides for KyMEA to Facilitate Member-Owned Resources in One of Three Ways





**Under Option 1: Total KyMEA Credits for FPB's SEPA Entitlements are Projected to Result in Significant Net Benefit to FPB**

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



**Topic 6: FPB Exit Options**

The AR Contract balances interests of all Members in providing for any Member to terminate the agreement on reasonable terms

Avoid Exposing Continuing Members to Costs of Commitments Made for an Exiting Member

*Key Principles Driving the Determination of the Exit Option Provided in the AR Contract*




Realize Benefits of Planning for the Longer Term



## Term and Termination

Page	Section	Summary/Key Points
6-7	2	<p>(a) Perpetual Term, but AR Agreement may be terminated:</p> <ul style="list-style-type: none"> <li>➤ By Member on 5 years' notice effective May 31</li> <li>➤ But not prior to May 31, 2024</li> <li>➤ Provided that the Member shall remain responsible for any Resource Obligations, as determined in accordance with Section 12</li> </ul> <p>(b) Member can terminate earlier if all Agency obligations are met</p> <p>(c) Agreement may be terminated in the Event of Default per Section 12</p>


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### Because the Agency will plan for Longer than 5 Years, Some Agency Commitments may Extend beyond the Termination by a Member

Page	Section	Summary/Key Points
14-15	6(b)	<p>To achieve long-term economic benefits,</p> <ul style="list-style-type: none"> <li>➤ the Agency's power supply planning horizon shall be at least ten (10) years, and</li> <li>➤ the Parties anticipate that the Agency will enter into power supply-related commitments both shorter and longer than the notice of termination period specified in Section 2(a).</li> </ul>

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**Member MAY have a Continuing Obligation to the Agency after Terminating the Agreement**

Page	Section	Summary/Key Points
22-23	12 (d) and (e)	<p>(d) Notwithstanding termination,</p> <ul style="list-style-type: none"> <li>➤ A Member must fulfill any previously agreed to Resource Obligations</li> <li>➤ To fulfill a Resource Obligation, a Member would pay monthly charges to the Agency designed to recover any amount by which                             <ul style="list-style-type: none"> <li>i. costs to the Agency associated with Member’s Resource Obligation exceed</li> <li>ii. value the Agency can realize by using or marketing the Member’s allocated share of the Agency Obligation underlying the Resource Obligation.</li> </ul> </li> <li>➤ Agency may require Letter of Credit to secure Resource Obligations</li> </ul> <p>(e) Schedule of Agency Obligations that could result in Resource Obligations</p> <ul style="list-style-type: none"> <li>➤ Updated annually and</li> <li>➤ Member’s share based on load ratio share of Billing Demands in the 12 months just before effective date of termination, unless a different basis for “share” has been established in another agreement.</li> </ul>

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**Overall Conclusions: The Proposed AR Project Offers Significant Advantages to FPB**

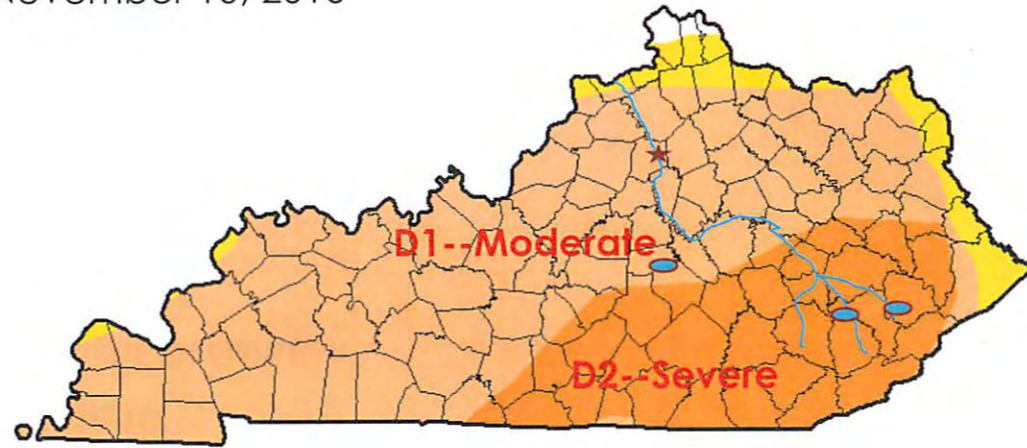




# Kentucky Drought Status and Impact on FPB November 15, 2016



US Drought Monitor  
November 10, 2016

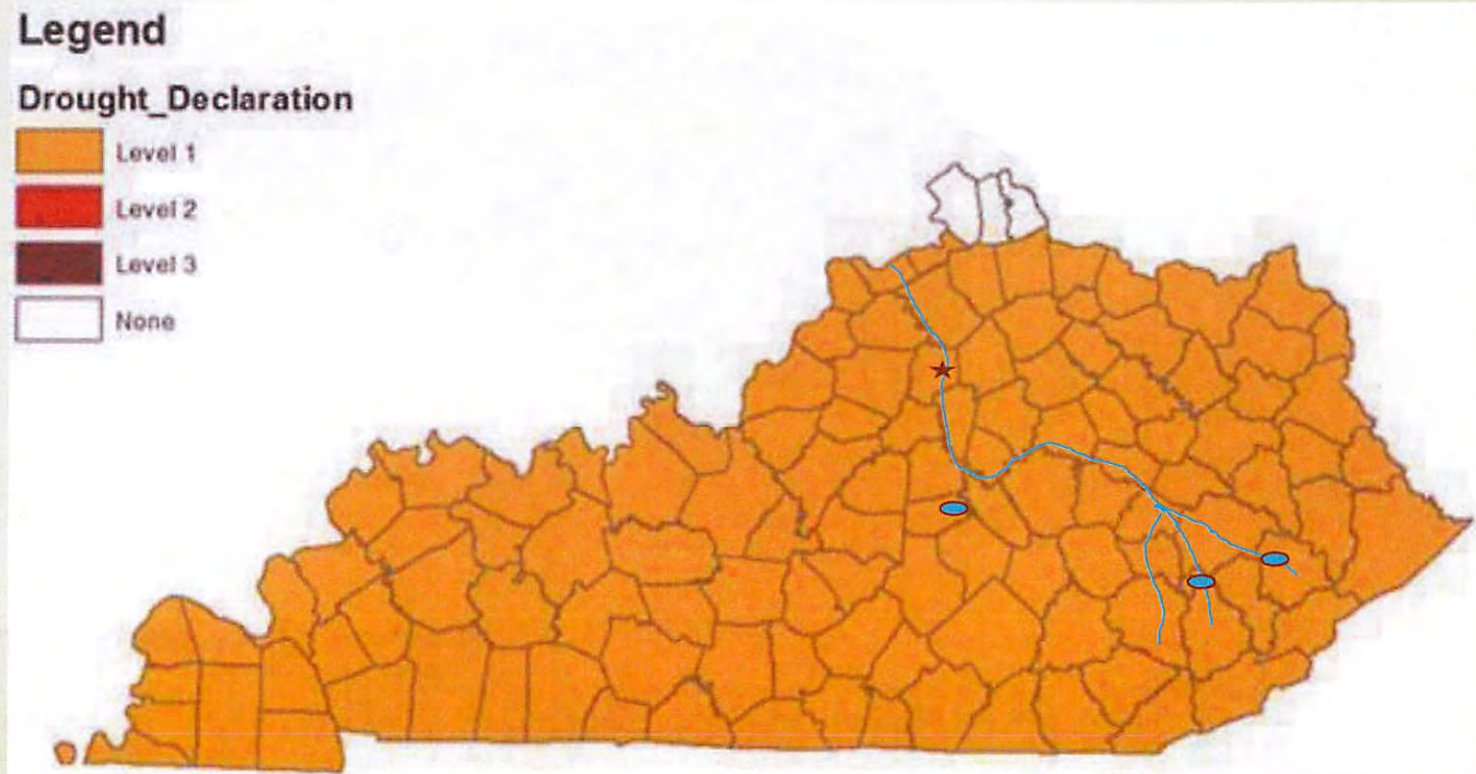




## Level 1 Drought

Declared November 10, 2016 by Energy/Environment & State Climatologist Office

- When 3 of 5 indicators meet trigger thresholds (rainfall, stream flows, DM, soil moisture, reservoir storage)
- Main impacts to-date: Agriculture, wild fires, stream flows





# KY Drought Mitigation & Response Plan

- ▶ Developed by the KY Division of Water and the Drought Mitigation and Response Advisory Committee
  - ▶ Effective December 2008
- ▶ Coordinated effort by all applicable agencies and organizations lead by the Drought Mitigation Assessment Team
- ▶ 4 Drought Assessment Sub-Teams
  - ▶ Climate and Water Resources
  - ▶ Agriculture and Natural Resources
  - ▶ Drinking Water and Public Health
  - ▶ Drought and Water Emergency
- ▶ Drought Indicators: Precipitation, stream flows, Drought Monitor, reservoir storage, soil moisture; others include NOAA climatic outlook, Palmer Index, Climate Prediction Center
- ▶ 4 Drought Action Levels: Advisory, Levels I thru III
- ▶ Targeted Drought Declarations (Water Shortage Watch/Warning)
- ▶ Emergency Declarations (Local, state, Ag)



# FPB Water Shortage Plan



- Prepared in collaboration with KY Division of Water
- Approved by FPB Board July 2012
- 5-Phased Program based on Triggers
  - Awareness Stage: KDOW announces **Water Shortage Watch** and flow at Lock #4 reaches 225 cfs (145 MGD) for 4 consecutive days—Voluntary conservation (**Water Shortage Watch issued by EEC when water supply data indicates a potential for water shortages to develop—targeted drought declarations**)
  - Advisory Stage: Flow at Lock #4 reaches 145 cfs (94 MGD) for 4 consecutive days and in collaboration with other indices/agencies—Voluntary conservation
  - Alert Stage: Flow at Lock #4 reaches 115 cfs (74 MGD) for 4 consecutive days and in collaboration with other indices/agencies—Voluntary conservation except non-essential use is restricted
  - Emergency Stage: Flow at Lock #4 reaches 55 cfs (35 MGD) for 4 consecutive days and in collaboration with other indices/agencies—Voluntary conservation for essential use, restricted for socially/economically important, banned for non-essential
  - Ration Stage: Flow to be determined—all uses restricted







Kentucky Drought Viewer: <http://watermaps.ky.gov/drought>

**Legend**

**Drought\_Viewer**

- Water Storage Treatment Plants
- Watch
- Warning
- Drought Declaration
- None
- Level 1
- Level 2
- Level 3
- Watch Shortage Coverage
- Watch
- Warning

**About**

Drought Action Levels are determined using several triggers along with reports of drought impacts. Each level will increase the amount of involvement by state agencies as dictated by the Kentucky Drought Mitigation and Response Plan.

**Level 1 Drought:** Signifies that the state has officially designated a prolonged dry period as a drought.

**Level 2 Drought:** Indicates that drought impacts, some severe, are being observed including:

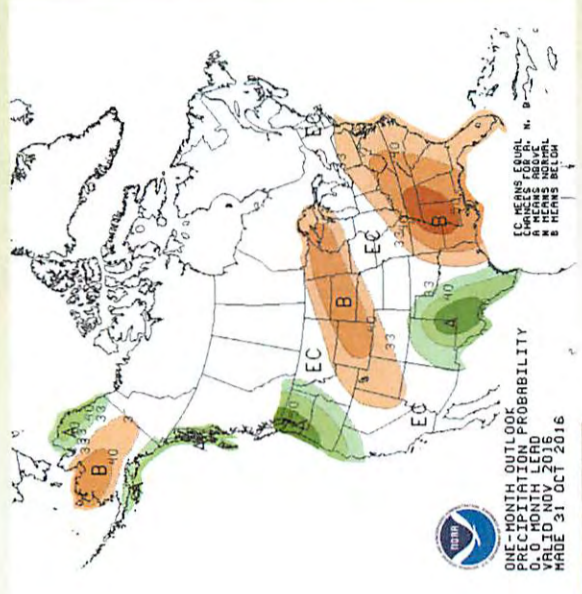
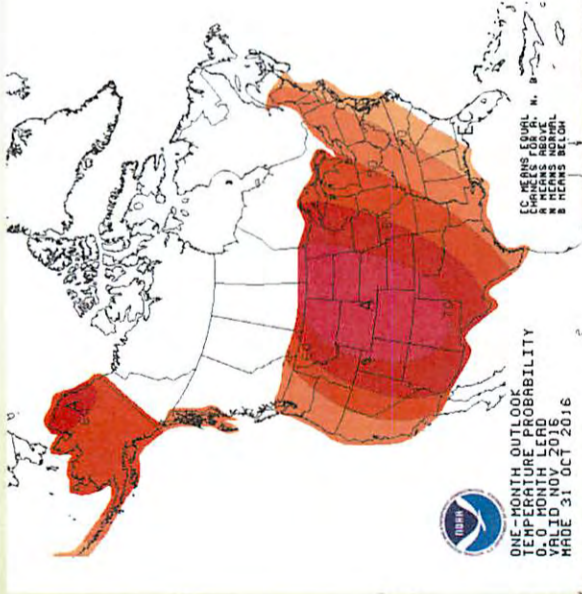
**Level 3 Drought:** During this stage of drought, it is expected that drought impacts will be widespread and severe and develop into emergencies if drought conditions are not abated.

**Water Shortage Watch:** Indicates a potential for water shortages to develop. The watch is intended to encourage increased awareness by water supply managers in an area and help local governments communicate the severity of a drought situation to affected customers.

**Water Shortage Warning:** Indicates that a critical water shortage is imminent. A warning may also be issued for an area in which one or more systems have entered the emergency phase of a local water shortage response plan.







# Predicting the Future??



## FPB Status (as of 11/15/2016)



- ▶ Flow in the KY River is **currently** adequate for system demand
  - ▶ Flow of 600 cfs = 388 MGD; average raw water withdrawal is 8-10 MGD
- ▶ Stream flows, watershed reservoir levels/discharge rates, precipitation, weather conditions, Georgetown usage tracked daily by WTP staff
  - ▶ National Weather Service, KY Mesonet, Louisville COE, USGS Streamflow
- ▶ KY River raw water withdrawals and distributed water amounts tracked daily
- ▶ WTP staff stay in daily contact with FPB's largest wholesale customer (Georgetown)
- ▶ WTP staff staying in contact with applicable DOW staff
- ▶ Distribution staff continue to respond quickly to leaks and breaks, flush primarily for water quality concerns and do a great job of communicating with customers if they have leaks on their service lines or in their homes when working service orders
- ▶ Public communication and information documents reviewed



## Current Drought—Impacts on FPB Water Department



- ▶ Selling more water, primarily to wholesale customers
  - ▶ November 2016 trending 2 MGD higher than 2015
- ▶ Low turbidity/high organic raw water hard to treat—chemical costs up
- ▶ Daily overtime at WTP to meet system and wholesale demand
- ▶ Conservation is a challenge in the fall/winter
  - ▶ Less to no “non-essential” usage



Question or Comment:

Julie W. Roney

WTP Superintendent/Frankfort Plant Board

[jroney@fewpb.com](mailto:jroney@fewpb.com)





**FRANKFORT PLANT BOARD**  
Electric . Water . Cable-Telecom

  
317 W. 2nd Street  
502.352.4372


# FPB Reservoir

Frankfort Electric and Water Plant Board  
Frankfort, Kentucky  
David Billings, Chief Water Engineer

## Discussion Agenda

2

- History
- Issues
- Physical Constraints
- Design Constraints
- Going Forward





## FPB Water History

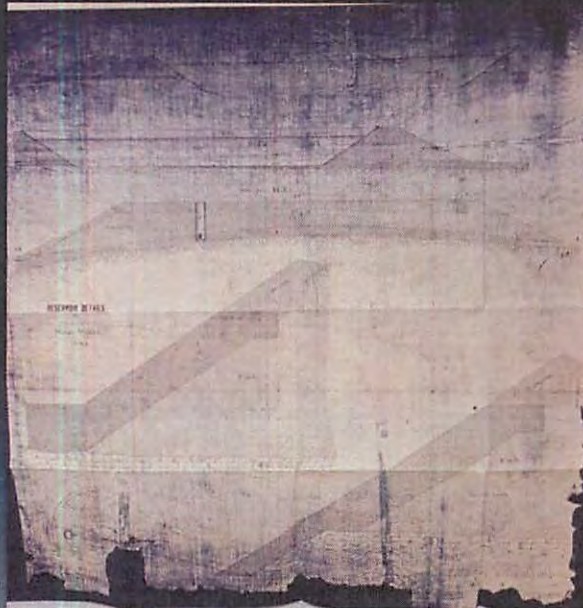
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- 1804, City of Frankfort established first water works in KY – Frankfort Water Company. First water source was Cedar Cove Spring
- 1839, Improvements to Cedar Cove Spring and new gravity piping system installed which supplied an adequate water supply till 1880's



## Reservoir History

4



- Circa 1885, the Kentucky River becomes our water source with the construction of a new pumping plant and the Reservoir. Original capacity was approximately 6.5 MG.



## Reservoir History (cont.)

5



1962 - Vertical wall section (ring wall being added to increase overall capacity to 9.2 MG

## Reservoir History (cont.)

6



1962 -Roof system consisting of columns, support beams, and roof system added for health concerns and to provide limited nuclear fallout protection.

Gunnite (thin layer of concrete) applied over limestone pavers.



## Reservoir History (cont.)

7



1961 – During construction photo showing 1/2 work complete.

## Reservoir History (cont.)

8



Since 1961, Reservoir has remained relatively unchanged and represents 60% of our total system storage.  
Lifespan  
1886 – 2016  
(130 years)



## Reservoir History (cont.)

9



1974, New treatment plant and 36" water line constructed to the Reservoir. In total, there are 36", 20", 14", and 12" water lines on the existing Reservoir site.

## Issues with Reservoir

10

- Age (130 years old)
- Increasing Maintenance Issues
  - Ongoing deterioration of roof system components
  - Ongoing deterioration of gunite lining
  - Seepage
- Inherent Design Shortfalls
  - Earthen Embankment
  - No seismic design incorporated
  - Interior sloped walls (not efficient cross section)
  - Steep exterior side slopes
  - Flat roof
    - Requires separate support structure (majority of current issues)
    - Higher potential for roof leaks

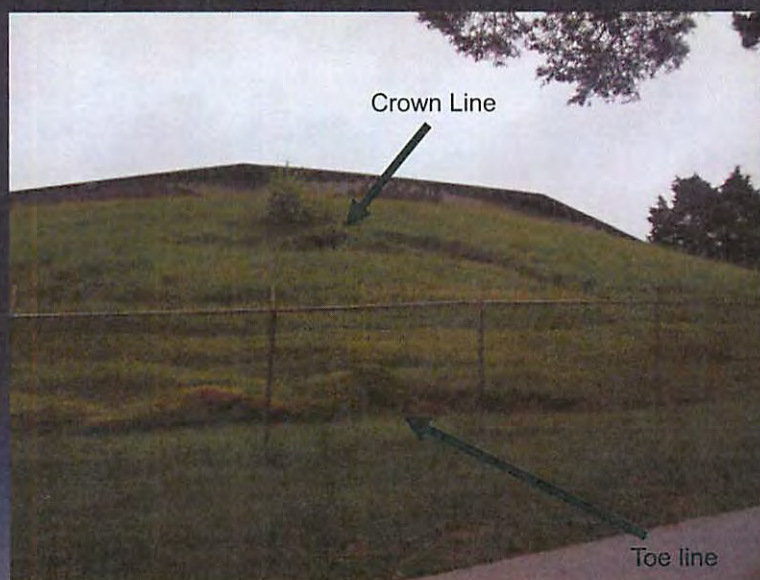


## Maintenance Issues

11

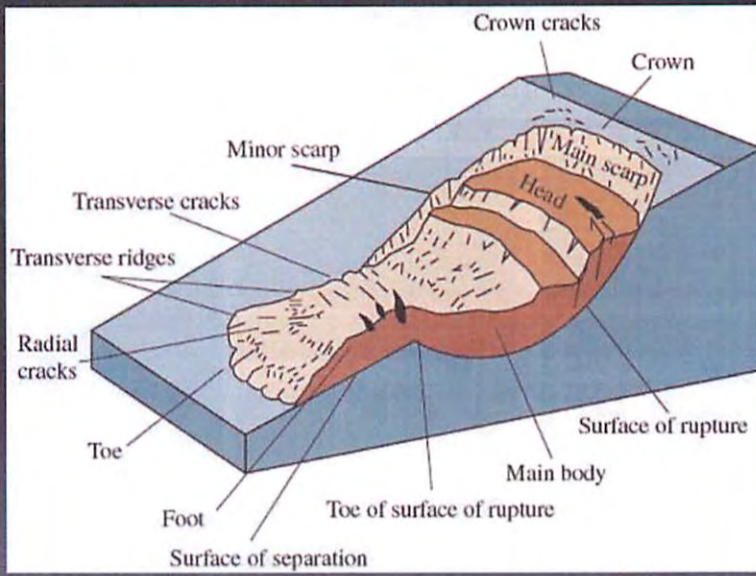
- Recent History
  - 2011 - Slippage repair on South Basin
    - Steeper side slopes more prone to soil failures
  - 2013 - Interim repairs
  - Conducted various repairs following annual inspections in 2014, 2015, 2016
  - Dec 2015 - Exterior seepage event

## Slope Slippage (Earth Slump) 2011<sup>12</sup>

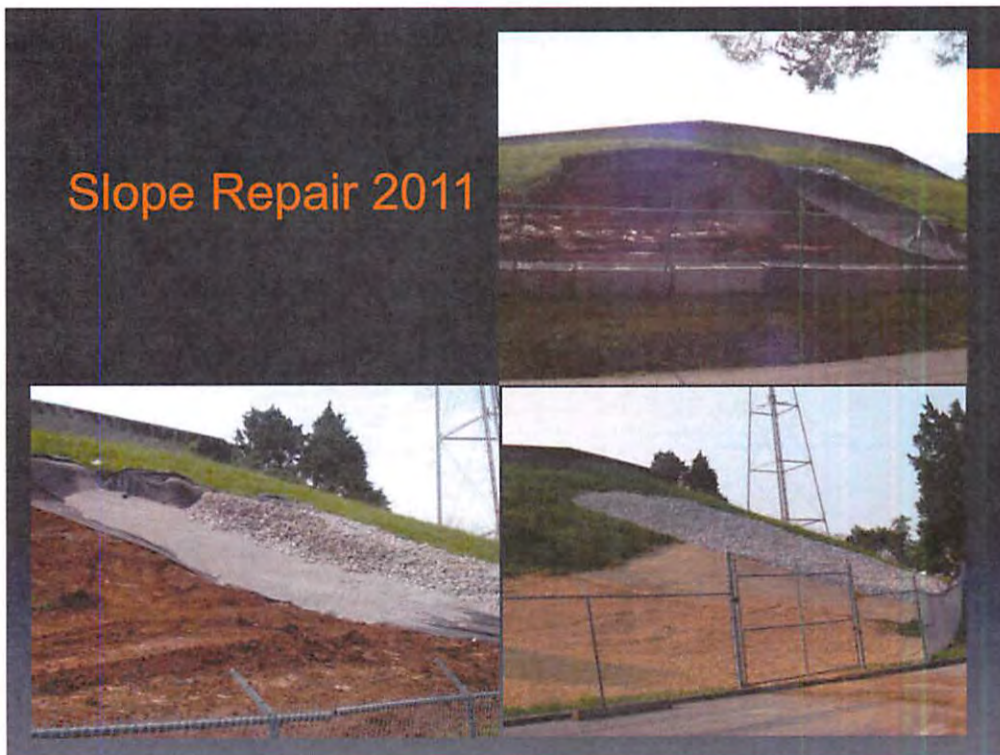




## Slope Slippage (Earth Slump) 2011<sup>13</sup>



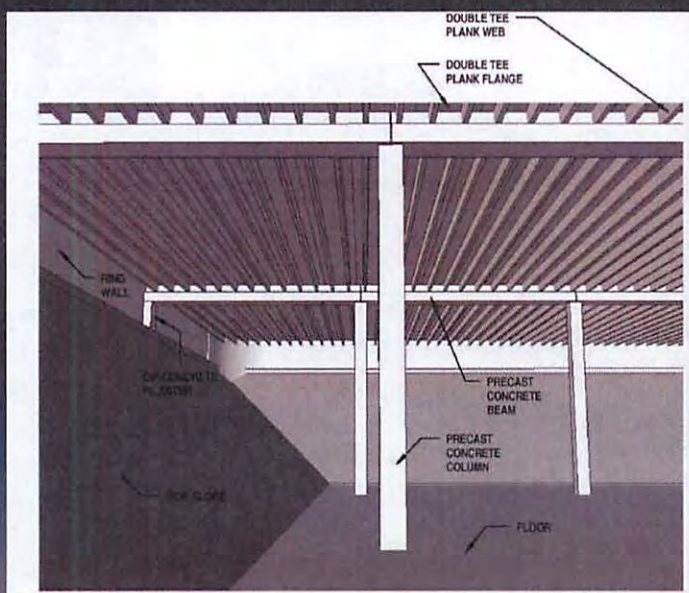
## Slope Repair 2011





## Interim Repairs 2013

15



- Surface repairs to double tee roof planks
- Surface repairs to inverted tee beams
- Pilaster repairs
- Bearing surface repairs
- Added additional support brackets
- Crack injection repairs

## Seepage 2015

16



### Exterior embankment leakage event

- The situation was effectively mitigated but could have developed into a potentially serious situation had it continued unnoticed (piping)
- Event occurred on the South Basin on the Reservoir Rd side

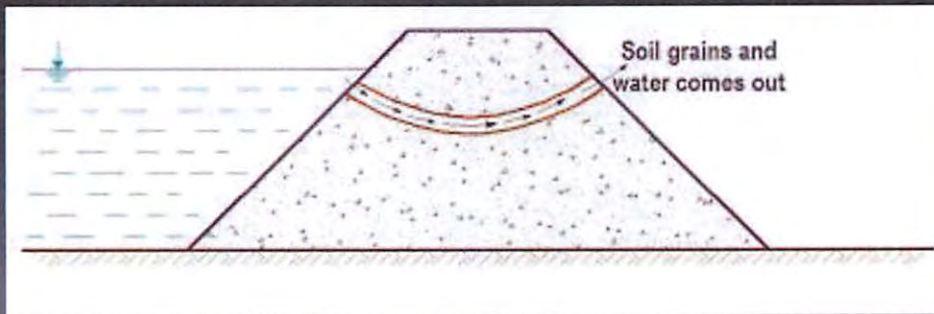


## Seepage 2015

17

### What is Piping?

- Piping is internal erosion of the embankment or foundation material caused by seepage



## Mitigating the seepage required internal repairs to stop leakage

18



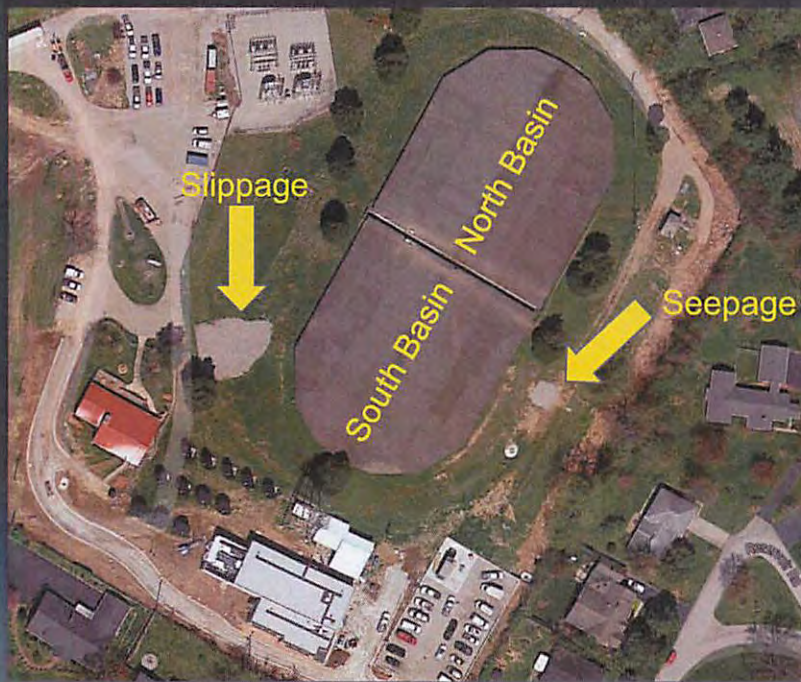


## Mitigating required external repairs to control leakage



### Seepage Mat

A seepage mat was installed in the affected area to control seepage that might continue. The seepage mat allows any remaining leakage to be released at a controlled manner such that piping doesn't occur. Piezometric monitoring wells were also installed near the seepage area to gauge water levels in the earthen embankment.





## Additional maintenance as result of the monitoring program

21

- Monitoring program began following the 2013 Interim Improvements Project
- Every Spring, the Reservoir is taken out of service and inspected
- Additional various repairs have been completed following the inspection (2014, 2015, 2016)
- Increasing number of maintenance issues in recent years (age related)

## What does all this mean?

22

- Reservoir has reached the end of it's useful life
- Been scheduled for replacement since 2010
- Replacement was delayed because of the Cable Head End
- Currently in preliminary design phase for replacement (as of Aug 2016)

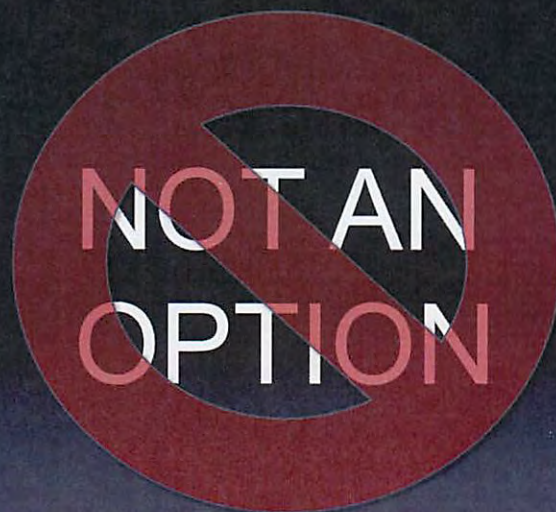
## How did we get to this point?



## Past Options Considered <sup>23</sup>

- Do Nothing
- Repair
- Move
- Replace

## Do Nothing? <sup>24</sup>





## Repair? - Strand Evaluated Alternatives in 2010

25

### Repair Existing Structure (15-20 year fix)

- Structural improvements
- Roof repairs
- Lining system
- Total Estimated Budget \$2.8M – \$4.2M

### Complete Roof Replacement

- New ring wall and foundation
- New support system
- New roof system
- Still have earthen embankment with no seismic protection
- Not a cost effective solution

### New Tanks Were Recommended (50+ year fix) ✓

- Partially buried
- Low maintenance costs
- Improved safety
- Designed in accordance with current codes (seismic protection)
- Total Estimated Budget \$3.5M – \$3.75M (two 4.5 MG Tanks)
- New tanks are more cost effective, provide better assurances, and longer service life

## Move? – Staff Evaluated Alternative Locations

26

Before we discuss location alternatives we need to understand design constraints

- Tank type
- Elevation (tank type and subsequent pumping systems)
- Costs



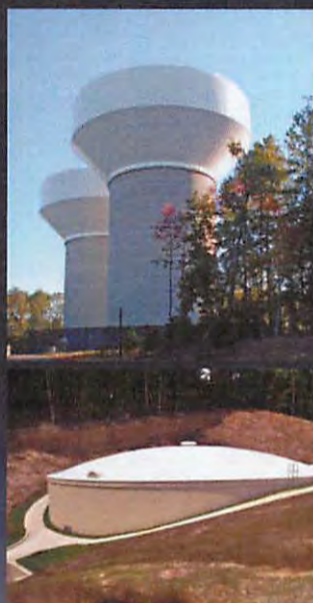
## Move? – Tank type is a factor

27

Two basic types of water tanks, elevated storage and ground storage.

### Elevated Storage

Size limitations up to approx. 3 MG max  
 Height up to 230 feet  
 Costs **\$2.00-\$3.75**  
 (per gallon)

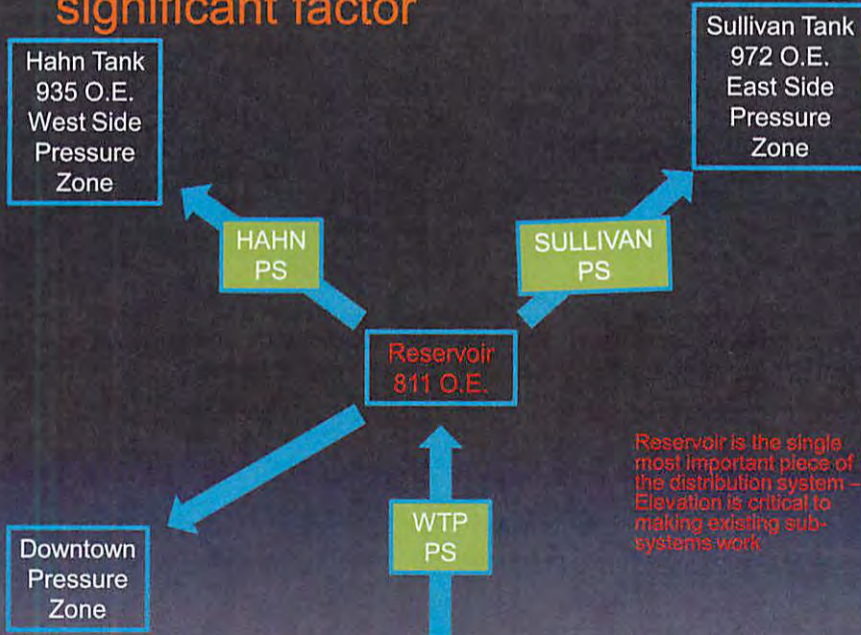


### Ground Storage

Size limitations up to approx. 30 MG max  
 Height up to 70 feet  
 Costs **\$0.25-\$0.50**  
 (per gallon)

## Move? – Water elevation is a significant factor

28





## Move? – Limited Choices

29

Potential undeveloped areas with necessary ground elevation of approximately 780 ft.

- Existing location
- Berry Hill / Golf course area
- Behind Franklin Square area
- Next to AT&T tower site off Sower BLVD

## Move? – What are the costs?

30

Costs for each site considered (Infrastructure + Land)

▪ Option 1 - behind Franklin Square	\$8.9M	additional	
▪ Option 2 - Next to AT&T tower site off Sower BLVD	\$5.8M	additional	
▪ Option 3 - Berry Hill / Golf course area	\$1.6M	additional	
▪ Stay at existing location	N/A	N/A	✓

Notes:

Tank costs for each option not included. Moving from existing location would require 36" pipe for all options plus new pump station for options 2 & 3. 36" pipe costs approx. \$288 per ft or \$1.5M per mile



## Past Options Recap 31

- Do Nothing NOT AN OPTION
- Repair Not Cost Effective
- Move Limited Options and Very Costly
- Replace Most Cost Effective and Best Option

## Where Are We Now? 32

- Currently in design phase (as of Aug 2016)
- Design Guidelines
  - Existing Site
  - Ground Storage
  - One 7 MG tank (Second 7 MG tank at some point in the future)
  - Smaller footprint (approx. 22% less)
  - Less runoff
  - More efficient cross section
  - Improved drainage



## Where Are We Now?

33

- Conceptual Plan Drawing
  
  
  
  
  
  
  
  
  
  
- Design is not complete
- Open to suggestions
- Several aesthetic options available


## What is Next??

34

### Going Forward

- Tour of existing facility
- Public meeting(s) in December to solicit input
- Take suggestions back to engineering firm for consideration
- Possible presentations to City Council / Rotary / Kiwanis / Etc.
- Possible press statement
- Estimated construction beginning Summer 2017





**FRANKFORT PLANT BOARD**  
Electric · Water · Cable-Telecom

317 W. 2nd Street  
502.352.4372

**Questions**

- David Billings
- Frankfort Plant Board
- [dbillings@fewpb.com](mailto:dbillings@fewpb.com)



## FPB / Tanglewood Neighborhood Association Headend Mitigation Options

November 2016

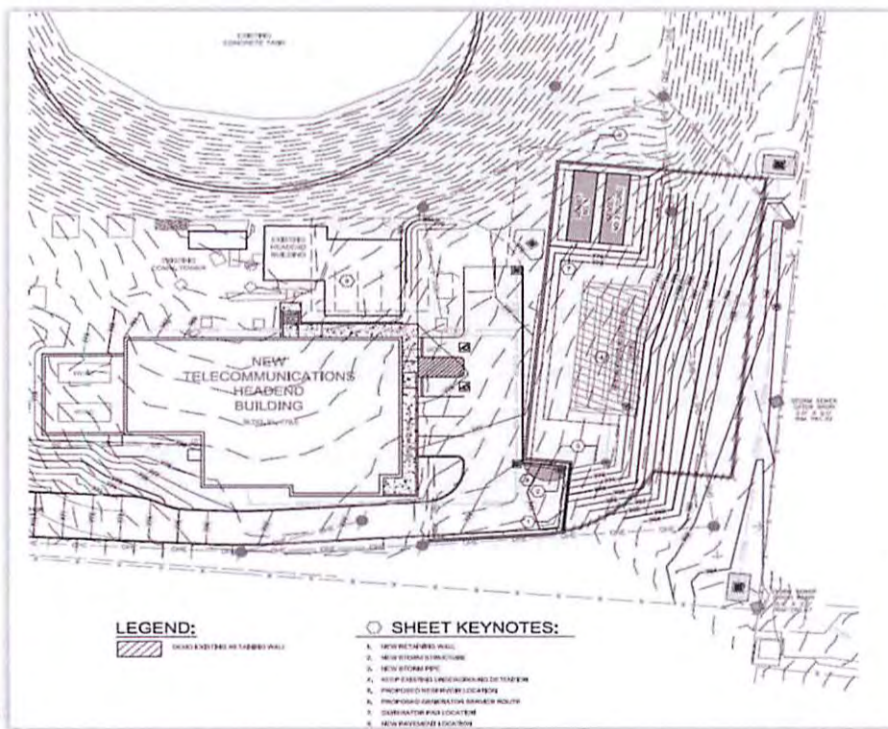
### Frankfort City Commission Requests

- Remove parking structure, but keep the generator
- No bucket trucks or large commercial vehicles except for emergencies or construction
- Use of path lighting only, except on the building
- Landscape and fence the area per Inside Out Design including the removed parking area where practical
- If Frankfort Plant Board continues to develop on any city property in the future, FPB must gain approval of the Planning and Zoning Commission
- Explore the possibility of burying the power line adjacent to the fence so that the landscaping can be enhanced



## City Request #1: Remove Parking Structure, Keep Parking Structure

- Cost Estimate: \$186,334
- Schedule of Events
  - Demolish the retaining walls scheduled to be removed down to the footings.
  - Demolish the parking structure paving and subgrade aggregate.
  - Construct the new retaining wall connection to allow for vehicular traffic and a turnaround space.
  - Re-grade the parking structure area to the generator pad and seed.
- Schedule
  - Design Phase Days: 90-115 Days
  - Construction Phase Days: 135-165 Days
  - Schedules above are estimates subject to additional meetings/approvals, contractor proposals and seasonal factors.





## City Request #6: Landscape and Fence

• Fence


- FPB has received cost estimates on 12 different fence configurations (total estimates based on 1,100 feet of fencing, all require \$13,800 design cost not included below):

Fence Description	Total Estimated Cost	Estimated Cost Per Linear Foot
Brick Wall Base & 7' Wave Fence	\$ 745,559	\$ 678
Brick Wall Base (one side) & 7' Wave Fence	\$ 666,940	\$ 606
Brick Wall Base & 7' Straight Fence	\$ 610,584	\$ 555
Brick Wall Base (one side) & 7' Straight Fence	\$ 531,964	\$ 484
7' Wave Fence on Grade	\$ 483,281	\$ 439
7' Straight Fence on Grade	\$ 348,305	\$ 317
7' Eagle Wave Picket Fence on Grade (Steel)	\$ 447,102	\$ 406
7' Eagle Straight Picket Fence on Grade (Steel)	\$ 442,927	\$ 403
7' Falcon Wave Picket Fence on Grade (Aluminum)	\$ 636,346	\$ 578
7' Falcon Straight Picket Fence on Grade (Aluminum)	\$ 633,563	\$ 576
Concrete Wall Base & 7' Wave Fence	\$ 641,836	\$ 583
Concrete Wall Base & 7' Straight Fence	\$ 506,860	\$ 461


Site Fence Costs Budgetary Cost Estimate		Project: Telecom "Headend" Building 98 Tanglewood Drive Frankfort Plant Board				
Description		Number of Units	Units of Measure	Unit Cost	Proposal Total Cost	
<b>Site Privacy Fence - Brick and Wave Fence</b>						
<b>Design Services</b>					<b>Total</b>	<b>\$13,800</b>
Engineering Services	1	Lump	\$6,500	\$6,500		
Geotechnical Services	1	Lump	\$4,500	\$4,500		
Property Survey Services	1	Lump	\$2,800	\$2,800		
<b>Fence - Wall Costs</b>					<b>Total Cost at 1,100 lin/ft</b>	<b>\$745,599</b>
					<b>Total per Linear Foot</b>	<b>\$678</b>
Prefinished Steel Fence "Metro" Wave (7')	1,100	LF	\$512.00	\$563,200		
Brick Wall (40')						
Standard Brick	7,700	sf	\$15.30	\$117,810		
12" Cast Stone Cap	1,100	lin/ft	\$29.35	\$32,285		
Concrete Foundation (8"x60")	136	CY	\$430.00	\$58,480		
Concrete Footing (10"x24")	68	CY	\$320.00	\$21,760		
Demo Existing Fence, Footing, Landscaping	1,100	LF	\$14.40	\$15,840		
General Conditions	589,875	Lump	10%	\$58,938		






 <b>Site Fence Costs</b> <b>Budgetary Cost Estimate</b>		Project: Telecom "Headend" Building 98 Tanglewood Drive Owner: Frankfort Plant Board Project No. 4232-01 Date: 11/9/2016 Dwg. No. N/A Estimator: GRW Type: Proposal				
Description	Number of Units	Units of Measure	Unit Cost	Total Cost		
<b>Site Privacy Fence - Brick (Neighborhood Side Only) and Wave Fence</b>						
<b>Design Services</b>					<b>Total</b>	<b>\$13,800</b>
Engineering Services	1	Lump	\$6,500	\$6,500		
Geotechnical Services	1	Lump	\$4,500	\$4,500		
Property Survey Services	1	Lump	\$2,800	\$2,800		
<b>Fence - Wall Costs</b>					<b>Total Cost at 1,100 In/Ft</b>	<b>\$466,940</b>
					<b>Total per Linear/Foot</b>	<b>\$406</b>
Prefinished Steel Fence "Metro" Wave (7')	1,100	LF	\$312.00	\$343,200		
Brick Wall (40')						
Standard Brick	3,850	sf	\$15.30	\$58,905		
12" Cast Stone Cap	1,100	In/Ft	\$26.40	\$29,040		
Concrete Foundation (8"x60")	136	CY	\$430.00	\$58,480		
Concrete Footing (10"x24")	68	CY	\$320.00	\$21,760		
Demo Existing Fence, Footing, Landscaping	1,100	LF	\$14.40	\$15,840		
General Conditions	527,225	Lump	10%	\$52,723		
* O&P - Contractor Overhead and Profit at 15% Included in Total						
* Costs Include Labor						



 <b>Site Fence Costs</b> <b>Budgetary Cost Estimate</b>		Project: Telecom "Headend" Building 98 Tanglewood Drive Owner: Frankfort Plant Board Project No. 4232-01 Date: 11/9/2016 Dwg. No. N/A Estimator: GRW Type: Proposal				
Description	Number of Units	Units of Measure	Unit Cost	Total Cost		
<b>Site Privacy Fence - Brick and Straight Fence</b>						
<b>Design Services</b>					<b>Total</b>	<b>\$13,800</b>
Engineering Services	1	Lump	\$6,500	\$6,500		
Geotechnical Services	1	Lump	\$4,500	\$4,500		
Property Survey Services	1	Lump	\$2,800	\$2,800		
<b>Fence - Wall Costs</b>					<b>Total Cost at 1,100 In/Ft</b>	<b>\$410,584</b>
					<b>Total per Linear/Foot</b>	<b>\$555</b>
Prefinished Steel Fence "Metro" Straight (7')	1,100	LF	\$215.00	\$236,500		
Brick Wall (40')						
Standard Brick	7,700	sf	\$15.30	\$117,810		
12" Cast Stone Cap	1,100	In/Ft	\$29.35	\$32,285		
Concrete Foundation (8"x60")	136	CY	\$430.00	\$58,480		
Concrete Footing (10"x24")	68	CY	\$320.00	\$21,760		
Demo Existing Fence, Footing, Landscaping	1,100	LF	\$14.40	\$15,840		
General Conditions	482,675	Lump	10%	\$48,268		
* O&P - Contractor Overhead and Profit at 15% Included in Total						
* Costs Include Labor						






		Project: Telecom "Headend" Building 98 Tanglewood Drive Owner: Frankfort Plant Board Project No. 4232-01 Date: 11/9/2016 Estimator: GRW Dwg. No.: N/A Type: Proposal			
Site Fence Costs Budgetary Cost Estimate		Number of Units Units of Measure		Unit Cost Total Cost	
<b>Site Privacy Fence - Brick (Neighborhood Side Only) and Straight Fence</b>					
<b>Design Services</b>					<b>Total: \$13,800</b>
Engineering Services	1	Lump	\$6,500	\$6,500	
Geotechnical Services	1	Lump	\$4,500	\$4,500	
Property Survey Services	1	Lump	\$2,800	\$2,800	
<b>Fence - Wall Costs</b>					<b>Total Cost at 1,100 lin/ft: \$531,964</b>
					<b>Total per Linear/Foot: \$484</b>
Prefinished Steel Fence "Metro" Straight (7')	1,100	LF	\$215.00	\$236,500	
<b>Brick Wall (40')</b>					
Standard Brick	3,850	SF	\$15.30	\$58,905	
12" Cast Stone Cap	1,100	lin/ft	\$20.40	\$22,440	
Concrete Foundation (8"x60")	136	CY	\$430.00	\$58,480	
Concrete Footing (10"x24")	68	CY	\$320.00	\$21,760	
Demo Existing Fence, Footing, Landscaping	1,100	LF	\$14.40	\$15,840	
General Conditions	420,525	Lump	10%	\$42,053	




\* O&P - Contractor Overhead and Profit at 15% included in Total  
 \* Costs include Labor

		Project: Telecom "Headend" Building 98 Tanglewood Drive Owner: Frankfort Plant Board Project No. 4232-01 Date: 11/9/2016 Estimator: GRW Dwg. No.: N/A Type: Proposal			
Site Fence Costs Budgetary Cost Estimate		Number of Units Units of Measure		Unit Cost Total Cost	
<b>Site Privacy Fence - Wave Fence on Grade</b>					
<b>Design Services</b>					<b>Total: \$13,800</b>
Engineering Services	1	Lump	\$6,500	\$6,500	
Geotechnical Services	1	Lump	\$4,500	\$4,500	
Property Survey Services	1	Lump	\$2,800	\$2,800	
<b>Fence - Foundation Costs</b>					<b>Total Cost at 1,100 lin/ft: \$483,281</b>
					<b>Total per Linear/Foot: \$439</b>
Prefinished Steel Fence "Metro" Wave (7')	1,100	LF	\$312.00	\$343,200	
Concrete Foundation (10" Dia x 3')	184	sq	\$125.00	\$23,000	
Demo Existing Fence, Footing, Landscaping	1,100	LF	\$14.40	\$15,840	
General Conditions	382,040	Lump	10%	\$38,204	




\* O&P - Contractor Overhead and Profit at 15% included in Total  
 \* Costs include Labor



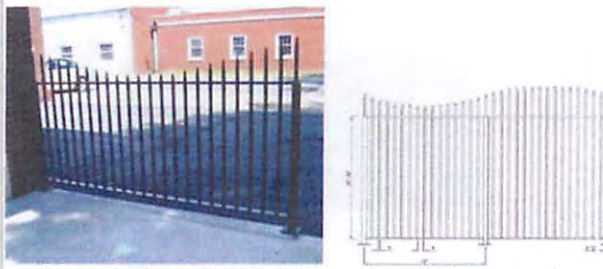
 Site Fence Costs Budgetary Cost Estimate		Project: Telecom "Headend" Building			
		98 Tanglewood Drive			
Description		Owner: Frankfort Plant Board		Project No. 4232-01	
		Date: 11/9/2016		Dwg. No. N/A	
Description		Estimator: GRW	Type:	Proposal	
		Number of Units	Units of Measure	Unit Cost	Total Cost
<b>Site Privacy Fence - Straight Fence on Grade</b>					
<b>Design Services</b>					<b>Total: \$13,800</b>
Engineering Services	1	Lump	\$6,500	\$6,500	
Geotechnical Services	1	Lump	\$4,500	\$4,500	
Property Survey Services	1	Lump	\$2,800	\$2,800	
<b>Fence - Foundation Costs</b>					<b>Total Cost at 1,100 ln/ft: \$348,305</b>
					<b>Total per Linear/Foot: \$317</b>
Prefinished Steel Fence "Metro" Straight (7)	1,100	LF	\$215.00	\$236,500	
Concrete Foundation (10" Dia x 3')	184	ea	\$125.00	\$23,000	
Demo Existing Fence, Footing, Landscaping	1,100	LF	\$14.40	\$15,840	
General Conditions	275,340	Lump	10%	\$27,534	

\* O&P - Contractor Overhead and Profit at 15% Included in Total  
 \* Costs Include Labor





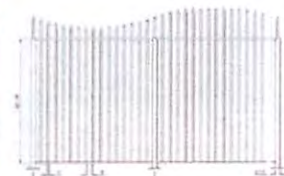
 Site Fence Costs Budgetary Cost Estimate		Project: Telecom "Headend" Building			
		98 Tanglewood Drive			
Description		Owner: Frankfort Plant Board		Project No. 4232-01	
		Date: 11/9/2016		Dwg. No. N/A	
Description		Estimator: GRW	Type:	Proposal	
		Number of Units	Units of Measure	Unit Cost	Total Cost
<b>Site Privacy Fence - Picket Wave Fence on Grade</b>					
<b>Design Services</b>					<b>Total: \$13,800</b>
Engineering Services	1	Lump	\$6,500	\$6,500	
Geotechnical Services	1	Lump	\$4,500	\$4,500	
Property Survey Services	1	Lump	\$2,800	\$2,800	
<b>Fence - Foundation Costs</b>					<b>Total Cost at 1,100 ln/ft: \$447,102</b>
					<b>Total per Linear/Foot: \$406</b>
Prefinished Steel Picket Fence "Eagle" Wave (7)	1,100	LF	\$286.00	\$314,600	
Concrete Foundation (10" Dia x 3')	184	ea	\$125.00	\$23,000	
Demo Existing Fence, Footing, Landscaping	1,100	LF	\$14.40	\$15,840	
General Conditions	351,440	Lump	10%	\$35,344	

\* O&P - Contractor Overhead and Profit at 15% Included in Total  
 \* Costs Include Labor




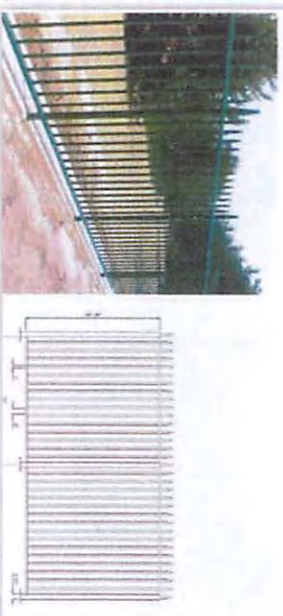



		Project: Telecom "Headend" Building 88 Tanglewood Drive Frankfort Plant Board			
Site Fence Costs Budgetary Cost Estimate		Project No. 4232-01	Dwg. No. N/A		
Description		Estimator: GRW	Type: Proposal		
	Number of Units	Units of Measure	Unit Cost	Total Cost	
<b>Site Privacy Fence - Picket Straight Fence on Grade</b>					
<b>Design Services</b>				<b>Total:</b>	<b>\$13,800</b>
Engineering Services	1	Lump	\$6,500	\$6,500	
Geotechnical Services	1	Lump	\$4,500	\$4,500	
Property Survey Services	1	Lump	\$2,800	\$2,800	
<b>Fence - Foundation Costs</b>				<b>Total Cost at 1,100 ln/ft:</b>	<b>\$442,927</b>
				<b>Total per Linear/Foot:</b>	<b>\$403</b>
Prefinished Steel Picket Fence "Eagle" Straight (7)	1,100	LF	\$283.00	\$311,300	
Concrete Foundation (10" Dia x 3')	184	ea	\$125.00	\$23,000	
Demo Existing Fence, Footing, Landscaping	1,100	LF	\$14.40	\$15,840	
General Conditions	350,140	Lump	10%	\$35,014	
* O&P - Contractor Overhead and Profit at 15% Included in Total * Costs include Labor					
					

		Project: Telecom "Headend" Building 88 Tanglewood Drive Frankfort Plant Board			
Site Fence Costs Budgetary Cost Estimate		Project No. 4232-01	Dwg. No. N/A		
Description		Estimator: GRW	Type: Proposal		
	Number of Units	Units of Measure	Unit Cost	Total Cost	
<b>Site Privacy Fence - Picket Wave Fence on Grade</b>					
<b>Design Services</b>				<b>Total:</b>	<b>\$13,800</b>
Engineering Services	1	Lump	\$6,500	\$6,500	
Geotechnical Services	1	Lump	\$4,500	\$4,500	
Property Survey Services	1	Lump	\$2,800	\$2,800	
<b>Fence - Foundation Costs</b>				<b>Total Cost at 1,100 ln/ft:</b>	<b>\$636,346</b>
				<b>Total per Linear/Foot:</b>	<b>\$578</b>
Prefinished Aluminum Picket Fence "Falcon" Wave (7)	1,100	LF	\$422.00	\$464,200	
Concrete Foundation (10" Dia x 3')	184	ea	\$125.00	\$23,000	
Demo Existing Fence, Footing, Landscaping	1,100	LF	\$14.40	\$15,840	
General Conditions	503,040	Lump	10%	\$50,304	
* O&P - Contractor Overhead and Profit at 15% Included in Total * Costs include Labor					
					




		Project: Tulecom "Headquarters" Building		86 Tanglewood Drive		Frankfort Plant Board		Project	
Site Fence Costs		Owner: Frankfort Plant Board		Project No. 4373-01		Date: 11/9/2016		Prog. No. N/A	
Budgetary Cost Estimate		Estimator: GRW		Type: Lump		Units of Measure		Total Cost	
Description		Quantity		Unit		Rate		Total	
<b>Site Privacy Fence - Fickett Straight Fence on Grade</b>									
<b>Design Services</b>									
Engineering Services	1	Lump	\$4,500		\$4,500				\$4,500
Geotechnical Services	1	Lump	\$4,500		\$4,500				\$4,500
Property Survey Services	1	Lump	\$3,800		\$3,800				\$3,800
<b>Fence - Foundation Costs</b>		Total Cost at 1,100 in/hr:		<b>\$443,353</b>		Total per Linear/foot:		<b>\$378</b>	
Prefinished Aluminum Fickett Fence "Victory" Straight (F7)	1,100	LF	\$420,000		\$420,000				\$420,000
Concrete Foundation (12" Dia x 3')	124	cu	\$124,400		\$124,400				\$23,200
Chain Linking Fence Footing, Landscaping	1,100	LF	\$14,400		\$14,400				\$15,840
General Conditions	300,840	Lump	10%						\$50,084
* O&P - Contractor Overhead and Profit at 15% included in Total									
* Costs include Labor									




		Project: Tulecom "Headquarters" Building		86 Tanglewood Drive		Frankfort Plant Board		Project	
Site Fence Costs		Owner: Frankfort Plant Board		Project No. 4373-01		Date: 11/9/2016		Prog. No. N/A	
Budgetary Cost Estimate		Estimator: GRW		Type: Lump		Units of Measure		Total Cost	
Description		Quantity		Unit		Rate		Total	
<b>Site Privacy Fence - Concrete Wall (w/fermium) and Wave Fence</b>									
<b>Design Services</b>									
Engineering Services	1	Lump	\$6,500		\$6,500				\$6,500
Geotechnical Services	1	Lump	\$4,500		\$4,500				\$4,500
Property Survey Services	1	Lump	\$3,800		\$3,800				\$3,800
<b>Fence - Wall Costs</b>		Total Cost at 1,100 in/hr:		<b>\$441,138</b>		Total per Linear/foot:		<b>\$483</b>	
Prefinished Steel Fence "Victory" Wave (F7)	1,100	LF	\$332,000		\$332,000				\$44,200
Concrete Wall									
Foundation (Standard Stone, Block, Pattern)	7,700	sf	\$730		\$730				\$5,716,000
Concrete Foundation (F-407)	7,700	sf	\$1,40		\$1,40				\$1,078,000
Concrete Footing (12"x4'x1')	48	cu	\$320,00		\$320,00				\$21,390,00
Chain Linking Fence Footing, Landscaping	1,100	LF	\$14,400		\$14,400				\$15,840
General Conditions	407,380	Lump	10%						\$50,738
* O&P - Contractor Overhead and Profit at 15% included in Total									
* Costs include Labor									





 <b>Site Fence Costs</b> <b>Budgetary Cost Estimate</b>		Project: Telecom "Headend" Building 98 Tanglewood Drive Owner: Frankfort Plant Board Project No: 4232-01 Date: 11/9/2016 Estimator: GSW Dwg. No: N/A Type: Proposal				
Description	Number of Units	Units of Measure	Unit Cost	Total Cost		
<b>Site Privacy Fence - Concrete Wall (w/Formliner) and Straight Fence</b>						
<b>Design Services</b>					<b>Total:</b>	<b>\$13,800</b>
Engineering Services	1	Lump	\$6,500	\$6,500		
Geotechnical Services	1	Lump	\$4,500	\$4,500		
Property Survey Services	2	Lump	\$2,800	\$2,800		
<b>Fence - Wall Costs</b>					<b>Total Cost at 1,100 Lf/ft:</b>	<b>\$506,840</b>
					<b>Total per Linear/Foot:</b>	<b>\$461</b>
Prefinished Steel Fence "Metro" Straight (7')	1,100	LF	\$215.00	\$236,500		
<b>Concrete Wall</b>						
Formliner (Standard Stone, Brick, Pattern)	7,700	sf	\$7.50	\$57,750.00		
Coloring	7,700	sf	\$1.40	\$10,780.00		
Concrete Foundation (8"x40")	135	CY	\$430.00	\$58,050.00		
Concrete Footing (12"x24")	68	CY	\$320.00	\$21,760.00		
Demo Existing Fence, Fencing, Landscaping	1,100	LF	\$14.40	\$15,840		
General Conditions	400,480	Lump	10%	\$40,068		

\* O&P - Contractor Overhead and Profit at 15% Included in Total  
 \* Costs Include Labor






## City Request #6: Landscape and Fence

- Landscaping
  - Inside Out Design Landscape Cost Estimate: \$125,000
  - Items not included in cost estimate:
    - Additional cost for hand digging that could be required
    - Prevailing wage rates
    - Does not include landscaping to individual customer property
    - Does not include landscaping where the parking structure is now

## City Request #8: Explore Possibility of Burying Power Lines Adjacent to Fence

- Estimated Cost: \$67,000
- This estimate does not address feasibility or cost of AT&T burying their lines.
- Estimate only includes cost to put FPB's lines underground and does not consider costs customers typically would pay to underground their service line from the pole to the house in accordance with FPB's tariff.



## Cost Estimate Comparison

Fence Description	Parking Lot	Fence Design	Fence Construction	Landscaping	Electric Burial	Total Estimated Cost
Brick Wall Base & 7' Wave Fence	\$ 186,334	\$ 13,800	\$ 745,559	\$ 125,000	\$67,000	\$ 1,137,693
Brick Wall Base (one side) & 7' Wave Fence	\$ 186,334	\$ 13,800	\$ 666,940	\$ 125,000	\$67,000	\$ 1,059,074
Brick Wall Base & 7' Straight Fence	\$ 186,334	\$ 13,800	\$ 610,584	\$ 125,000	\$67,000	\$ 1,002,718
Brick Wall Base (one side) & 7' Straight Fence	\$ 186,334	\$ 13,800	\$ 531,964	\$ 125,000	\$67,000	\$ 924,098
7' Wave Fence on Grade	\$ 186,334	\$ 13,800	\$ 483,281	\$ 125,000	\$67,000	\$ 875,415
7' Straight Fence on Grade	\$ 186,334	\$ 13,800	\$ 348,305	\$ 125,000	\$67,000	\$ 740,439
7' Eagle Wave Picket Fence on Grade (Steel)	\$ 186,334	\$ 13,800	\$ 447,102	\$ 125,000	\$67,000	\$ 839,236
7' Eagle Straight Picket Fence on Grade (Steel)	\$ 186,334	\$ 13,800	\$ 442,927	\$ 125,000	\$67,000	\$ 835,061
7' Falcon Wave Picket Fence on Grade (Aluminum)	\$ 186,334	\$ 13,800	\$ 636,346	\$ 125,000	\$67,000	\$ 1,028,480
7' Falcon Straight Picket Fence on Grade (Aluminum)	\$ 186,334	\$ 13,800	\$ 633,563	\$ 125,000	\$67,000	\$ 1,025,697
Concrete Wall Base & 7' Wave Fence	\$ 186,334	\$ 13,800	\$ 641,836	\$ 125,000	\$67,000	\$ 1,033,970
Concrete Wall Base & 7' Straight Fence	\$ 186,334	\$ 13,800	\$ 506,860	\$ 125,000	\$67,000	\$ 898,994