



Board Packet

December 16, 2020





KENTUCKY MUNICIPAL ENERGY AGENCY

December 16, 2020	Committee Reports	Administration Reports	Discussion Topics	Action Items
	BROC	CEO	Short-term Plan Options	MISO Dispute
	Compensation Committee	Market Analytics		
	Budget	Member Communications		
	Litigation Committee			

January 28, 2021	Committee Reports	Administration Reports	Discussion Topics	Action Items
	AR Project Committee	CEO	FY 2022 Administrative, General, and Capital Budget	Authorization for CEO to Implement Short-term Plan Option
	Budget Committee	Finance and Accounting	FY 2022 AR Rates	
		Market Analytics		
		Member Communications		

February 25, 2021	Committee Reports	Administration Reports	Discussion Topics	Action Items
	AR Project Committee	CEO	FY 2022 AR Rates	FY 2022 Administrative, General, and Capital Budget
		Market Analytics		
		Member Communications		

March 25, 2021	Committee Reports	Administration Reports	Discussion Topics	Action Items
	BROC	CEO		FY 2022 AR Rates
	AR Project	Finance and Accounting		FY 2022 Service Rates
		Market Analytics		



		Member Communications		
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April 22, 2021	Committee Reports	Administration Reports	Discussion Topics	Action Items
		CEO		
		Finance and Accounting		
		Market Analytics		
		Member Communications		

May 27, 2021	Committee Reports	Administration Reports	Discussion Topics	Action Items
	Budget	CEO	Summer Preparation	Committee Member Appointments
	Compensation	Finance and Accounting		
		Market Analytics		
		Member Communications		

*** This calendar is intended for planning purposes and may be changed at any time.**



KENTUCKY MUNICIPAL ENERGY AGENCY

Notice of a Combined Meeting of the AR Project Committee and the KYMEA Board of Directors (Video Meeting)

**Location: WebEx Video Meeting (if you would like to attend, please contact mhixon@kymea.org)
1700 Eastpoint Pkwy Ste. 220, Louisville, KY 40223
Wednesday, December 16, 2020, 10 am**

A. Meeting Opening

- A.1 Attendance
- A.2 Guest Introductions
- A.3 Call to Order

B. Meeting Minutes of the KYMEA Board of Directors

C. Financial Reports

D. Committee Reports

- D.1 BROCC
- D.2 Compensation Committee
- D.3 Budget Committee
- D.4 Litigation Committee

E. Administration Reports

- E.1 CEO
- E.2 Market Report
- E.3 Member Communications

F. Discussion Topics

- F.1 Short-term Plan Options

G. Action Items

- G.1 MISO Dispute

H. Public Comments

I. Upcoming Meetings & Other Business

- I.1 Call for Special Video Meeting on December 29th at 11 AM est.

J. Closed Session

- J.1 None Expected

K. Actions Related to Closed Session

- K.1 None Expected

L. Adjournment

Meeting Minutes





Minutes of the Regular Meeting of the KYMEA Board of Directors (Video Meeting)

**Location: WebEx Video Meeting (if you would like to attend please contact mhixon@kymea.org)
1700 Eastpoint Pkwy Ste. 220, Louisville, KY 40223
Wednesday, November 18, 2020, 10 am**

A. Meeting Opening

A.1. Attendance: Taken at 10:13 am

Present Board Members:

Josh Callihan
Ronald Herd
Chris Melton
Kevin Frizzell
Kevin Howard
Philip King (present at 10:40 am)
Mike Withrow
Gary Zheng

Absent Board Members:

Carl Shoupe
Doug Hammers
Ramona Williams

Staff Present:

Michelle Hixon
Heather Overby
Doug Buresh
Rob Leesman
Molly Roesler

Others Present:

Anna Marie Pavlik Rosen
Austin Horn
Charles Musson
David Denton
Hance Price
Kenneth Konkol



Pat Pace
Tim Lyons
Vent Foster

A.2. Guest introductions:

A.3. Call to Order: Chairman, Ron Herd, called the meeting to order at 10:13 am. A quorum of board members was present, and the Board was ready to proceed with business.

B. Meeting Minutes

B.1 Approval of the minutes of the Board of Directors on October 22, 2020.

Motion Passed: Approval of the October 22, 2020 meeting minutes of the Board of Directors passed with a motion by Josh Callihan and seconded by Chris Melton.

7 Yeas - 0 Nays.

Josh Callihan	Yes
Ronald Herd	Yes
Chris Melton	Yes
Mike Withrow	Yes
Carl Shoupe	Absent
Philip King	Absent
Kevin Frizzell	Yes
Doug Hammers	Absent
Kevin Howard	Yes
Ramona Williams	Absent
Gary Zheng	Yes

C. Financial Reports

C.1 Approval of the October 2020 Financial Reports

Motion Passed: Approval of the October 2020 financial reports passed with a motion Kevin Frizzell and seconded by Chris Melton.

7 Yeas - 0 Nays.

Josh Callihan	Yes
Ronald Herd	Yes



Chris Melton	Yes
Mike Withrow	Yes
Carl Shoupe	Absent
Philip King	Absent
Kevin Frizzell	Yes
Doug Hammers	Absent
Kevin Howard	Yes
Ramona Williams	Absent
Gary Zheng	Yes

D. Committee Reports

D.1 Budget Committee Report: Chairman, Chris Melton mentioned that staff presented the FY 2021 A&G budget to the Budget Committee on November 17th. The Committee expects to present it to the Board next month.

D.2 Compensation Committee: Chairman Herd reported that the Compensation Committee met this morning.

E. Administration Reports

E.1 CEO: Doug Buresh presented the CEO report regarding the Agency's past and upcoming activities.

E.2 Market Report: Rob Leesman discussed the previous month's markets in relation to KYMEA.

E.3 Member Communications: Michelle Hixon updated the Board on upcoming events and member activities.

F. Discussion Topics

F.1 Paducah Power system: Doug Buresh reviewed decisions that need to be made by December 31, 2020 in regards to the Paducah Power System PPA.

G. Action Items

G.1 None

H. Public Comments

This was an opportunity for members of the public to provide input to the KYMEA Board and was limited to 5 minutes per speaker.

No Comments were made.



I. Upcoming Meetings and Other Business

The next meeting is Wednesday, December 16th at 10 am at the Louisville office.

The KYMEA Board of Directors shall hold its regular meetings on the fourth Thursday of each month, except for the months of November and December, when the regular meeting shall be held on the third Wednesday. The regular meetings shall convene and commence at 10:00 am Eastern time on said dates. The regular meetings shall be held at the KYMEA Board Room, 1700 Eastpoint Pkwy, Suite 220, Louisville, Kentucky.

2020 Board Meetings

Thursday, January 23, 2020, 10:00 am Eastern Time, KYMEA Board Room
Thursday, February 27, 2020, 10:00 am Eastern Time, KYMEA Board Room
Thursday, March 26, 2020, CANCELLED
Thursday, April 23, 2020, 10:00 am Eastern Time, WEBEX VIDEO CALL
Thursday, May 28, 2020, 10:00 am Eastern Time, WEBEX VIDEO CALL
Thursday, June 25, 2020, 10:00 am Eastern Time, WEBEX VIDEO CALL
Wednesday, July 23, 2020, 1:00 pm Eastern Time, WEBEX VIDEO CALL
Thursday, August 27, 2020, 10:00 am Eastern Time, WEBEX VIDEO CALL
Thursday, September 24, 2020, 10:00 am Eastern Time, WEBEX VIDEO CALL
Thursday, October 22, 2020, 10:00 am Eastern Time, WEBEX VIDEO CALL
Wednesday, November 18, 2020, 10:00 am Eastern Time, WEBEX VIDEO CALL
Wednesday, December 16, 2020, 10:00 am Eastern Time, KYMEA Board Room

J. Closed Session

None

K. Actions Related to Matters Discussed in Closed Session

None

L. Adjournment

Motion Passed: Motion to adjourn the KYMEA board meeting passed with a motion by Gary Zheng and a second by Mayor Philip King.

8 Yeas - 0 Nays.

Josh Callihan	Yes
Ronald Herd	Yes
Chris Melton	Yes



KENTUCKY MUNICIPAL ENERGY AGENCY

Mike Withrow	Yes
Carl Shoupe	Absent
Philip King	Yes
Kevin Frizzell	Yes
Doug Hammers	Absent
Kevin Howard	Yes
Ramona Williams	Absent
Gary Zheng	Yes

X

Chairperson

X

Secretary

Financial Reports





KENTUCKY MUNICIPAL ENERGY AGENCY



Financial Presentation

December 16, 2020

Heather Overby

Statement of Net Position – November 2020

CURRENT ASSETS

	Nov 2020	
Cash and Investments	\$14,346,679	(1)
Other Receivables	6,139,687	(2)
Interest Receivable	0	
Prepayments & Other Current Assets	4,943	
Total Current Assets	\$20,491,309	

- 1) Checking account cash
- 2) Billing to AR & Transmission service members and ancillary services

Statement of Net Position – November 2020

NON-CURRENT ASSETS

Pledged Collateral	2,689,752	(3)
Investment in SEDC	757	
Fixed Assets Clearing Account	1,682	
Office Buildout	260,238	
Meters - AR Project	215,985	
Meter Comm Equipment	330,672	
General Plant	783,619	
Construction Work In Progress	0	
Less Accumulated Depreciation	(334,905)	
Total Non-Current Assets	\$3,947,801	
Total Assets	\$24,439,111	

- 3) Collateral represents \$1.9m at MISO and \$800k at PJM

Statement of Net Position – November 2020

LIABILITIES

Accounts Payable	9,721,944	(4)
Accrued Employee Benefits	140,171	
Accrued Interest Payable	0	
Total Current Liabilities	\$9,862,115	
Deferred Lease Liability	39,079	(5)
Line of Credit	0	(6)
Total Non-Current Liabilities	\$39,079	
Total Liabilities	\$9,901,194	

NET POSITION

Invested in capital assets, net of related debt	1,255,610	
Restricted	259	
Unrestricted	13,282,307	
Total Net Position	\$14,537,917	(7)

- 4) AP represents purchased power
- 5) Deferred Lease Liability represents the difference in average monthly rent for term of office lease and actual lease payments
- 6) Line of Credit paid off in August 2019
- 7) Positive net position - LTD

Statement Revenue, Expenses, and Changes in Net Position– November 2020

OPERATING REVENUE

	Nov 2020	YTD FY2021	
Sales to Members	\$5,268,675	\$32,062,610	(8)
RTO Market Revenue	\$15,825	\$165,486	(9)
Transmission Services	\$72,822	\$363,848	(10)
Miscellaneous Revenue	\$0	\$0	
Total Operating Revenue (Expenses)	\$5,357,322	\$32,591,944	

OPERATING EXPENSES

Transmission	\$578,922	\$3,252,722	(11)
Production	\$4,781,049	\$25,659,189	(12)
Admin. and General	\$175,128	\$1,003,065	
Depreciation	\$15,564	\$77,526	
Total Purchase Power and Operating Expenses	\$5,550,663	\$29,992,503	
Operating Income	(\$193,341)	\$2,599,441	

NON-OPERATING REVENUE

Interest Expense on Debt	\$0	(\$126)	
Interest Income	\$33	\$11,611	
Other Non-Operating Expenses (Income)	(\$2,517)	(\$18,558)	
Regulatory Credit/Debit - Cost to be Recovered	\$0	\$0	
Total Non-Operating Revenues (Expenses)	(\$2,483)	(\$7,073)	

NET POSITION CHANGES

Change in Net Position	(\$195,824)	\$2,592,368	(13)
Net Position at Beginning of Period	\$14,733,741	\$11,945,549	
Net Position at End of Period	\$14,537,917	\$14,537,917	

- 8) Sales to AR Members
- 9) RTO Auction Revenue Rights
- 10) Sales of transmission and ancillary services
- 11) Transmission from MISO, PJM, and KU net of depancaking credit
- 12) All purchased power including PPA, ITO, and SEPA
- 13) Negative MTD Net Income / Positive YTD Net Income

Indirect Statement of Cash Flows – November 2020

CASH FROM OPERATING ACTIVITIES	Nov 2020	YTD FY2021	
Net Income	(\$195,824)	\$2,592,368	(14)
Depreciation	15,564	77,526	
Accounts Receivable	(208,200)	1,480,559	(15)
Prepayments & Other Current Assets	1,236	6,179	
Deferred Debits	0	0	
Other Reg Assets & Deferred Outflow of Resources	0	0	
Accounts Payable	991,403	1,248,785	(15)
Collateral Deposits	0	0	
Taxes & Interest Accrued	409	3,283	
Other Current Liabilities	(968)	24,679	
Deferred Credits	(263)	418	
Net Cash Provided by (Used in) Operation	\$603,357	\$5,433,797	
CASH PROVIDED BY (USED IN) INVESTING ACTIVITIES			
Additions to Plant	(1,682)	(17,446)	
Net Change in Other Prop & Invest	(33)	(11,281)	
Other - Asset Retirement Obligations	0	0	
Net Cash Provided by (Used in) Investing	(\$1,715)	(\$28,728)	
CASH PROVIDED BY (USED IN) FINANCING ACTIVITIES			
Long Term Borrowings	0	0	
Other	0	0	
Net Cash Provided By (Used in) Financing	\$0	\$0	
NET INCREASE (DECREASE) IN CASH & TEMP INVESTMENTS			
Net Increase (Decrease) in Cash & Temp Investments	\$601,642	\$5,405,070	
Cash & Temp Investments Beginning of Period	\$13,745,037	\$8,941,609	
Cash & Temp Investments End of Period	\$14,346,679	\$14,346,679	(16)

14) Net Income

15) Timing of Accounts Receivable and Accounts Payable have largest monthly effect of operational items on cash

16) Cash balance in checking account

Financial Metrics – November 2020



KEY FINANCIAL METRICS

FY2021 Actuals Through November 2020 + Budget

Days Cash on Hand

69.09 ▲

Target: 63.00

Leverage

6.89 ▼

Target: 7.08

Coverage of Full Obligations

1.07 ▲

Target: 1.03

Debt Service Coverage

1.07 ▲

Target: 1.04

Financial Metrics – November 2020

Days Cash On Hand

Financial flexibility - the number of days KYMEA can pay its operating expenses with the given cash available.

\$14.3M

Unrestricted Cash

\$13.5M EOY Projection

\$207,651

Adjusted Operating Expense per Day

\$75.79M / 365 days

69.09

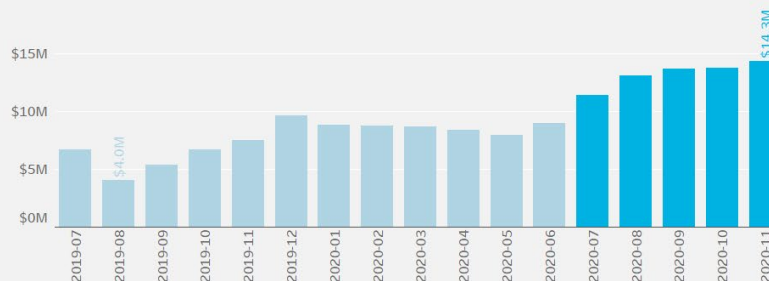
Days Cash on Hand

Target: 63.00

Unrestricted Cash

Adjusted Operating Expenses

Cash on Hand through Current Month



Days Cash On Hand

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69.09

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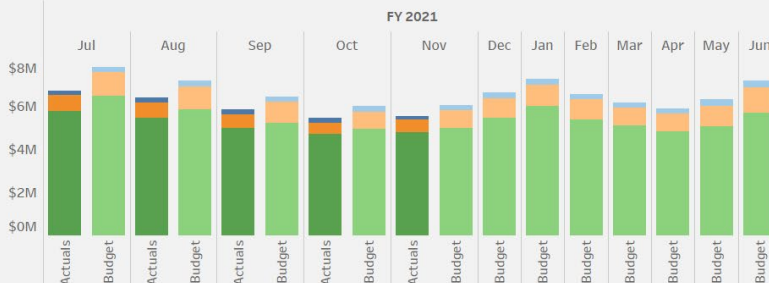
Target: 63.00

Unrestricted Cash

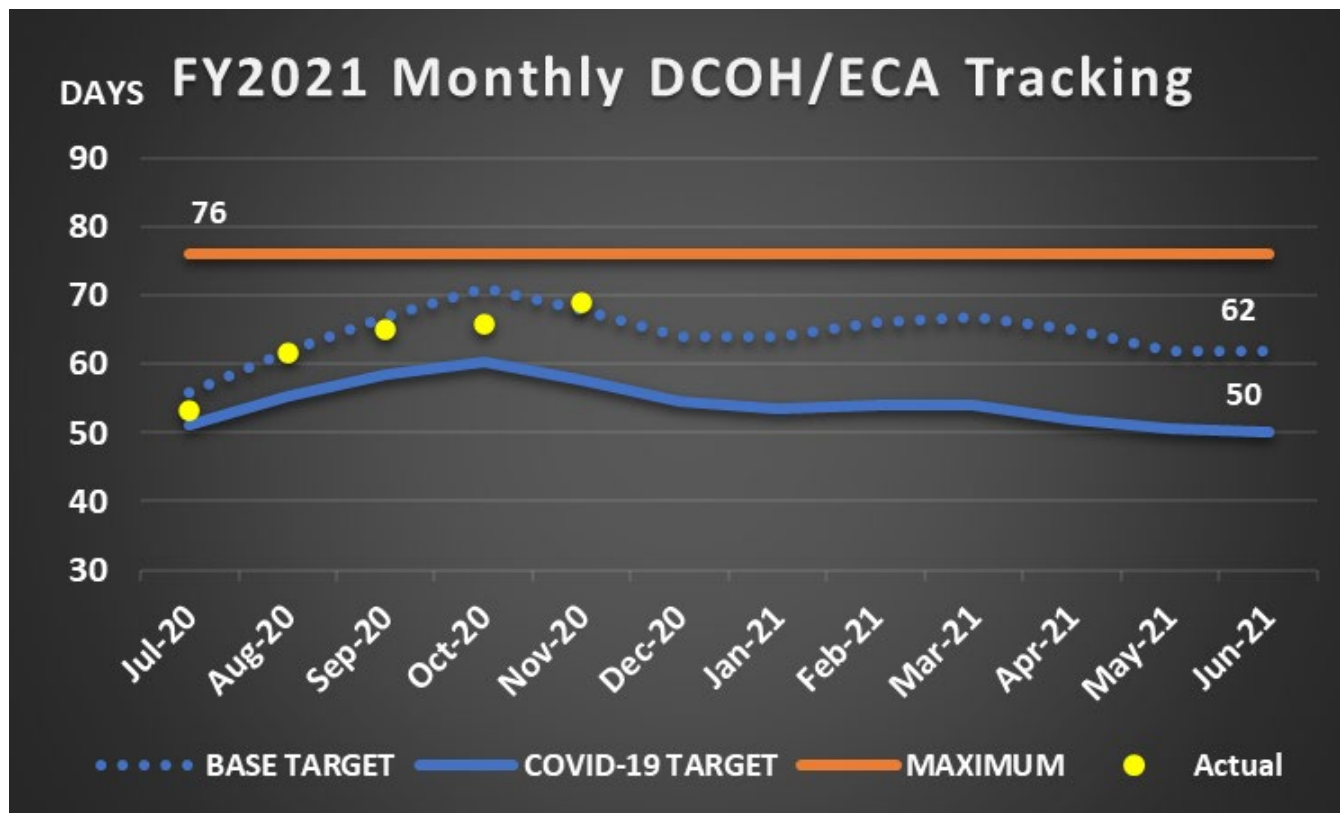
Adjusted Operating Expenses

Operating Expenses

Production, Budget Transmission, Budget Admin. and General, Budget
Production, Actuals Transmission, Actuals Admin. and General, Actuals



Financial Metrics – November 2020



Financial Metrics – November 2020

Leverage

The size of the debt to the margin available to cover all debt service and fixed charges.

6.89

Target: 7.08

Net Adjusted Debt

Adjusted Funds Available
for Debt Service

Net Adjusted Debt



Leverage

The size of the debt to the margin available to cover all debt service and fixed charges.

6.89

Target: 7.08

Net Adjusted Debt

Adjusted Funds Available
for Debt Service

Adjusted Funds Available for Debt Service



Financial Metrics – November 2020

Coverage of Full Obligations

1.07

The funds available from operations to cover current debt service and fixed charges requirements.

Target: 1.03

Funds Available for Debt Service ÷ Total Debt Service & Fixed Charges

Imputed Debt Payment

\$44.45M

Administrative & General Expense

\$2.84M

EBITDA & Interest Income

\$3.24M

Debt Service Coverage

1.07

The funds available from operations to cover current debt service.

Target: 1.04

Funds Available for Debt Service ÷ Total Debt Service

Imputed Debt Payment

\$44.45M

EBITDA & Interest Income

\$3.24M

Statement of Net Position

FY2021 Actuals as of November 2020

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Statement of Revenue, Expenses, and Changes in Net Position

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Indirect Statement of Cash Flows

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Cash & Temp Investments End of Period	\$14,346,679	\$14,346,679

Month Ending
2020-11

Reconciliation Transactions Report

12/07/20 03:05:43 PM

11/01/20-11/30/20 131.00 CASH

User Id: 2014

Statement Ending Balance :	14,347,070.00
Outstanding Payments(-) :	391.04
Adjustments in Transit(+) :	.00
Deposits in Transit(+) :	.00
Adjusted Bank Balance :	<hr/> 14,346,678.96
Book Balance :	14,346,678.96
Pending Adjustments :	.00
Adjusted Book Balance :	<hr/> 14,346,678.96
Difference :	.00

Committee Reports

D. Committee Reports

- D.1 BROC
- D.2 Compensation Committee
- D.3 Budget Committee
- D.4 Litigation Committee



Administration Reports

E. Administration Reports

E.1 CEO

E.2 Market Report

E.3 Member Communications





KENTUCKY MUNICIPAL ENERGY AGENCY

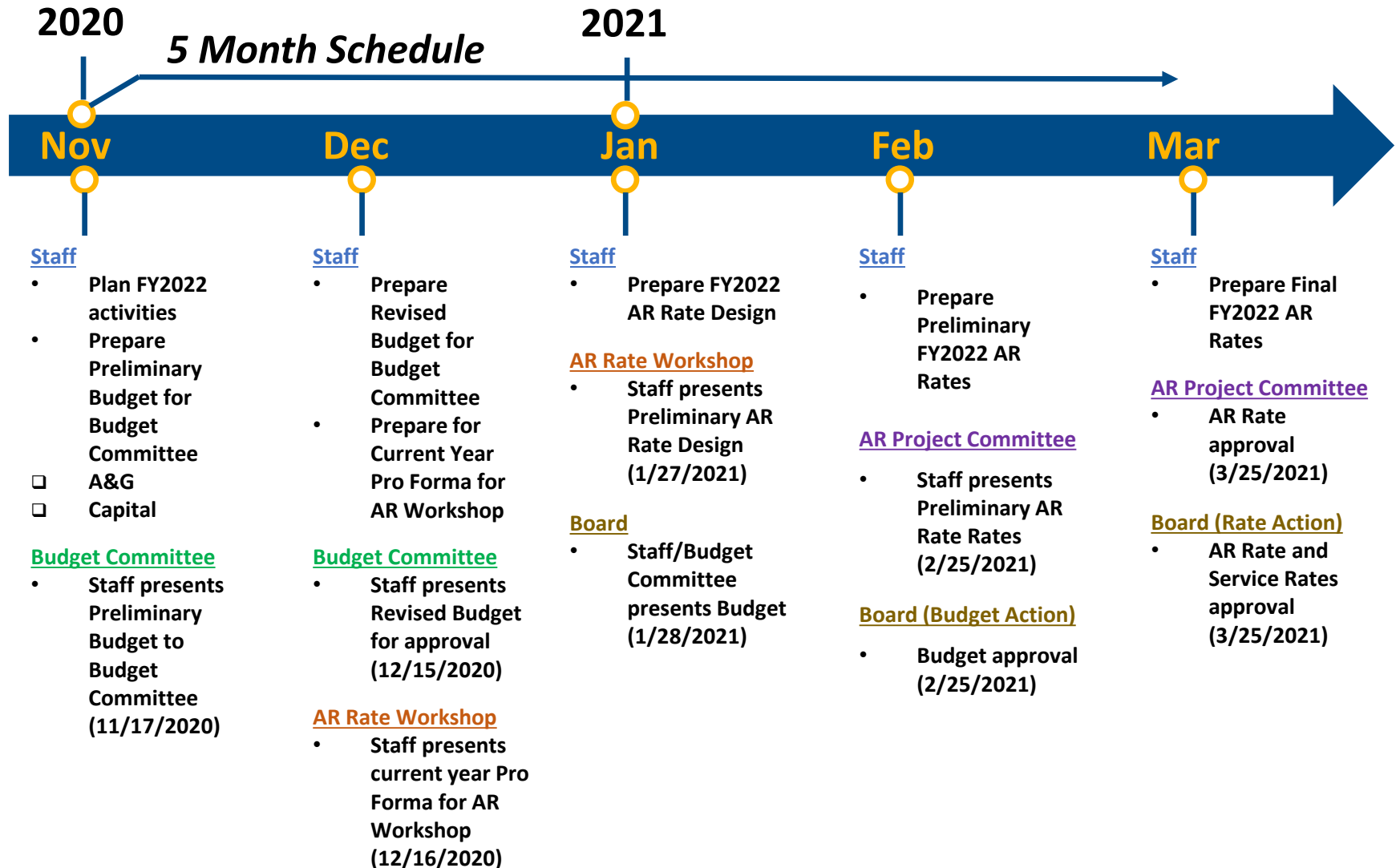


KYMEA President & CEO Report

Doug Buresh

December 16, 2020

FY2022 Budget and Rates Schedule



Southeast Energy Exchange Market (SEEM)



ITO Stakeholder Meeting
November 19, 2020

Presenter: Ashley Vinson



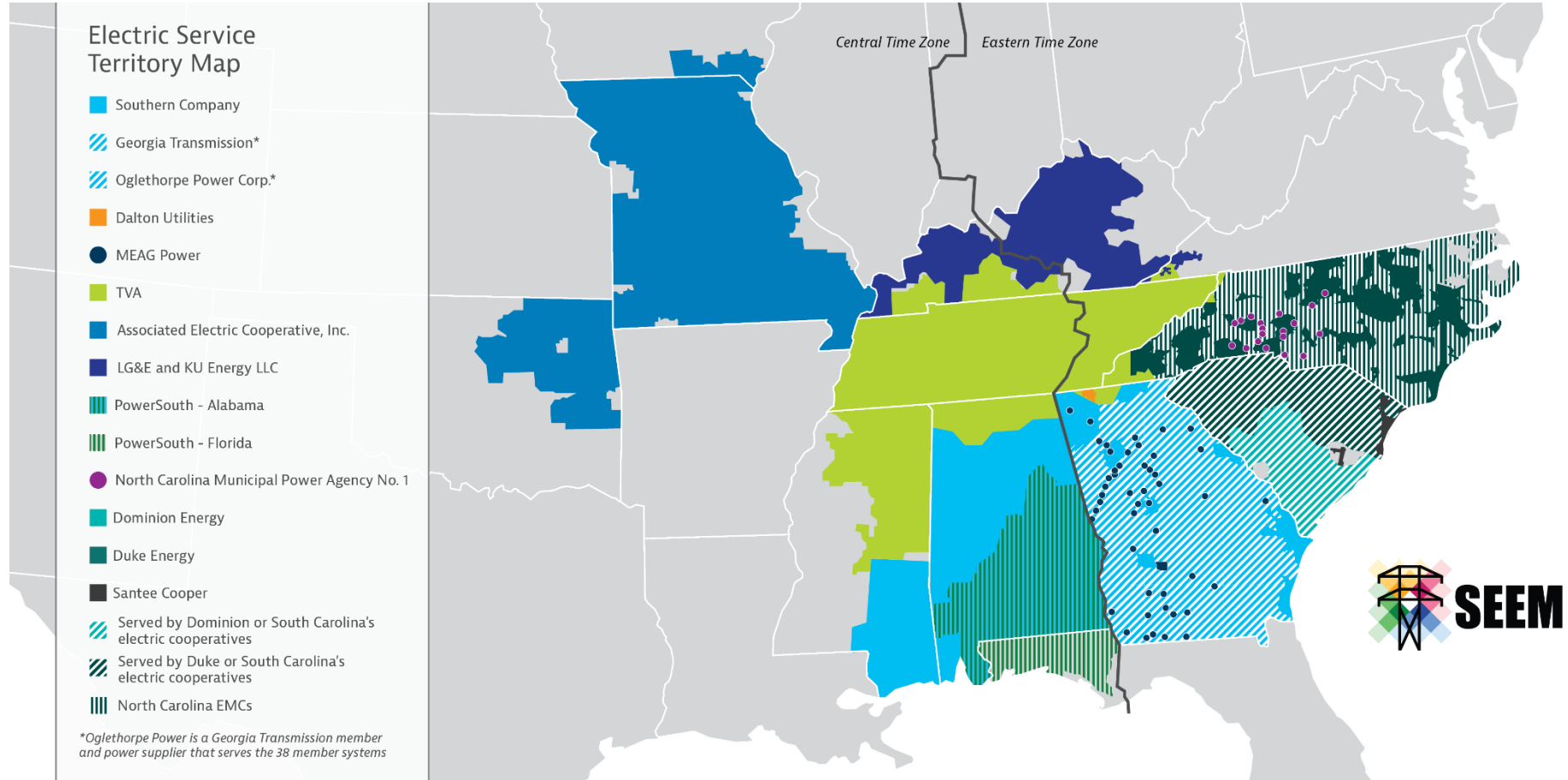
What is SEEM

- A region-wide, automated intra-hour Platform to match buyers and sellers with the goal of more efficient bilateral trading utilizing unused transmission capacity to achieve cost savings for customers
- Acts as an enhancement to the existing bilateral market

What SEEM is Not

- Does not replace bilateral market or existing agreements
 - Power sales will take place in accordance with bilateral contracts between participants under market-based rate authority, where applicable
 - No centralized dispatch
 - Participation is voluntary (no must-offer, no use of non-participating transmission)
- Does not replace or change existing Balancing Authority or Transmission Service Provider requirements

SEEM Footprint > 160,000 MW Generating Capacity



Benefits

- Produces positive and proactive market enhancements quickly
- Creates new opportunities without disrupting regulatory framework
- Enables further optimization of existing generation and transmission assets
- Supports the integration of existing and future renewable and variable resources
- Leverages geographical diversity of the Southeast
 - Two time zones
 - Over 1000 miles wide
 - Connects wind and solar regions with large metropolitan “sinks”
- Designed to respect Southeast jurisdictional diversity
 - Most SEEM members are not FERC-jurisdictional

SEEM Roles

Members	Will fund initial development of Platform and costs; will have voting rights
Non-Member Participants	Will be able to participate in the market, but do not have initial funding obligations or voting rights
SEEM Agent	Will act as single point of contact for the Platform Administrator and signatory to agreement with Platform Administrator; will be one of the SEEM Members
SEEM Auditor	Will report to SEEM Membership Board; tasked with ensuring proper functioning and accuracy of Platform and adherence of the market to the Platform Rules; will not be a SEEM Member, Non-Member Participant, or SEEM Agent
Platform Administrator	Will be contracted to build and run the Platform; will not be a SEEM Member, Non-Member Participant, or SEEM Agent

Participation Criteria

- Members

- Must be either 1) a retail LSE; 2) an association, cooperative or governmental entity created for the purpose of providing electric energy to cooperative or governmental retail LSEs; or 3) a designated representative of one or more entities that are eligible to be a Member
 - Transmission service-providing Members (“TSPs”) must provide “Non-firm Energy Exchange Transmission Service” - zero cost transmission service for Platform transactions
- Will pay upfront costs of developing Platform and ongoing costs

- Participants

- Can be any entity with valid source(s) and/or sink(s) in a participating Transmission Service Provider (TSP) / Balancing Authority (BA) footprint

Non-Firm Energy Exchange Transmission Service

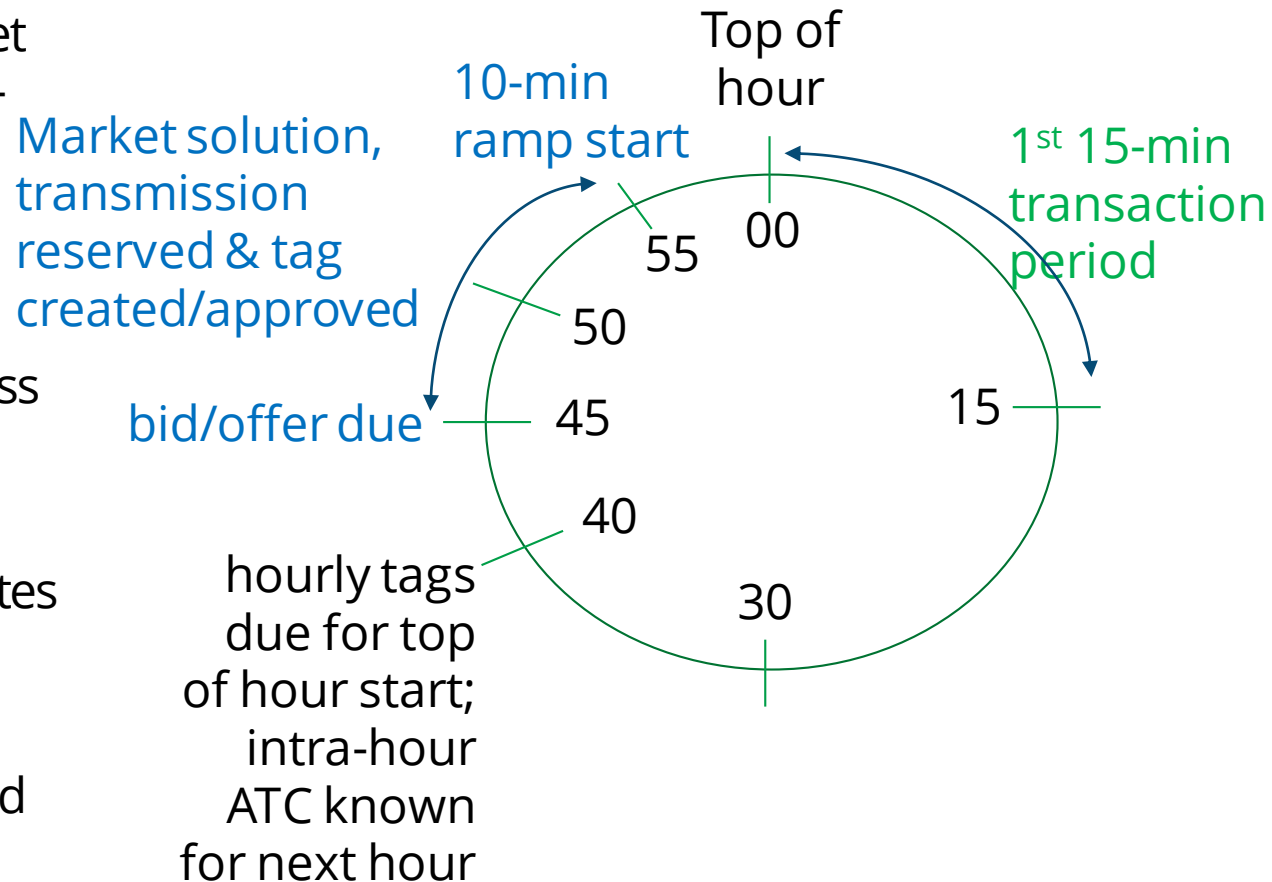
- Provided under individual Member TSP's open access transmission tariff ("OATT")
- Lowest priority, non-firm service
- \$0/MWh rate
- Intra-hour 15-minute term
- Scheduling/tagging performed by Platform
- No Schedule 1 or Schedule 2 charges
- TSPs will be made whole re: energy losses

Market Requirements

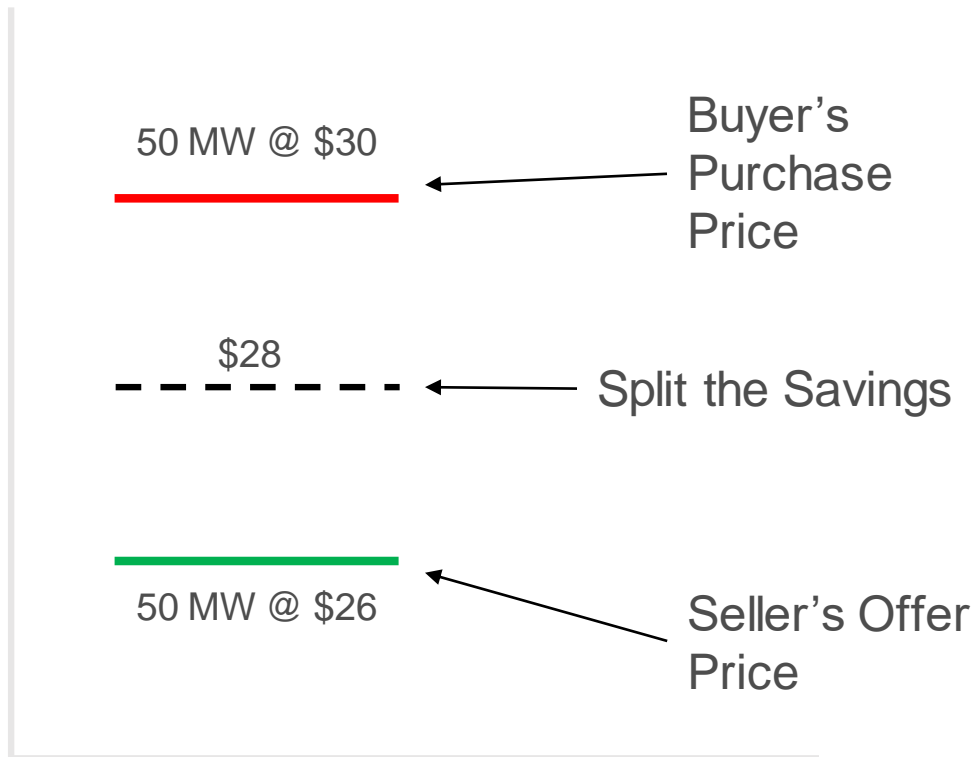
- Bids and Offers
 - Must provide quantity in MW, price as \$/MWh, and source/sink
 - Sources/sinks must be pre-approved, valid WebRegistry points
 - Must specify whether a partial match is acceptable or not and a minimum match size
 - 4 MW minimum (due to integration of 15 minute intervals across hour)
 - Must specify any limitations (e.g., market power mitigation; TVA fence; limits with specific counterparties)
 - Match creates bilateral agreement confirmation; transaction is scheduled and tagged

Market Timing

- 15-Minute Bilateral Market with four 15-minute intra-hour increments
 - Standard (“normal”) electronic tags
 - Standard 10-min “across the top” ramping
 - Deadline for bid/offer submission is 15 minutes prior to schedule start
 - Change e-tag deadline from 20-minutes ahead to 10-minutes ahead

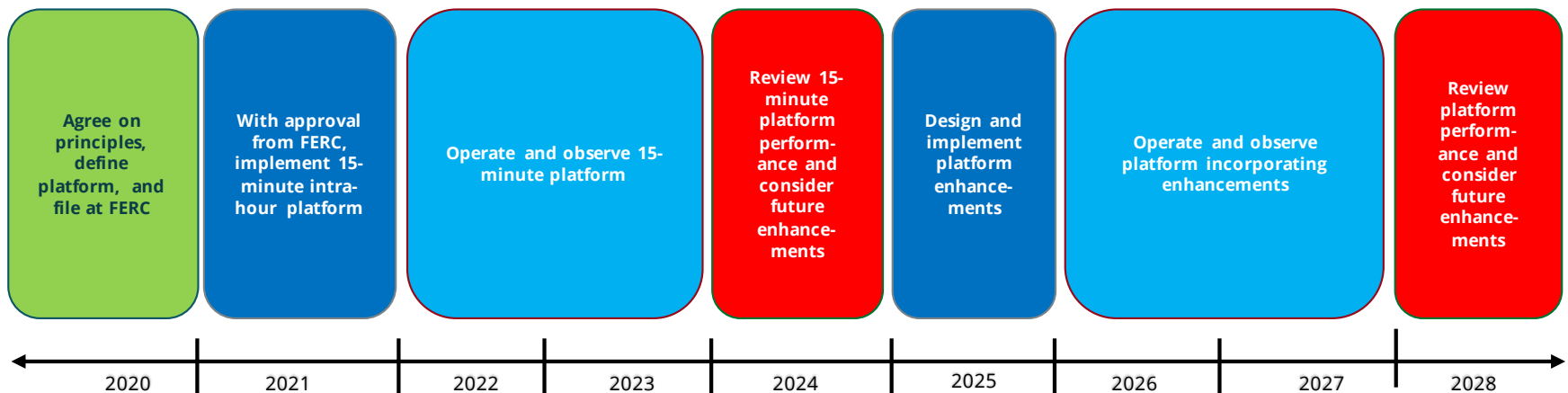


Pricing – Split the Savings



- Highest buyer's purchase price will be matched to lowest seller's offer price, and so on, subject to ATC and other limitations
- Pricing and corresponding matches will also consider the cost of procuring power to offset line losses

SEEM Long Term Plan





KENTUCKY MUNICIPAL ENERGY AGENCY



November 2020 Market Report

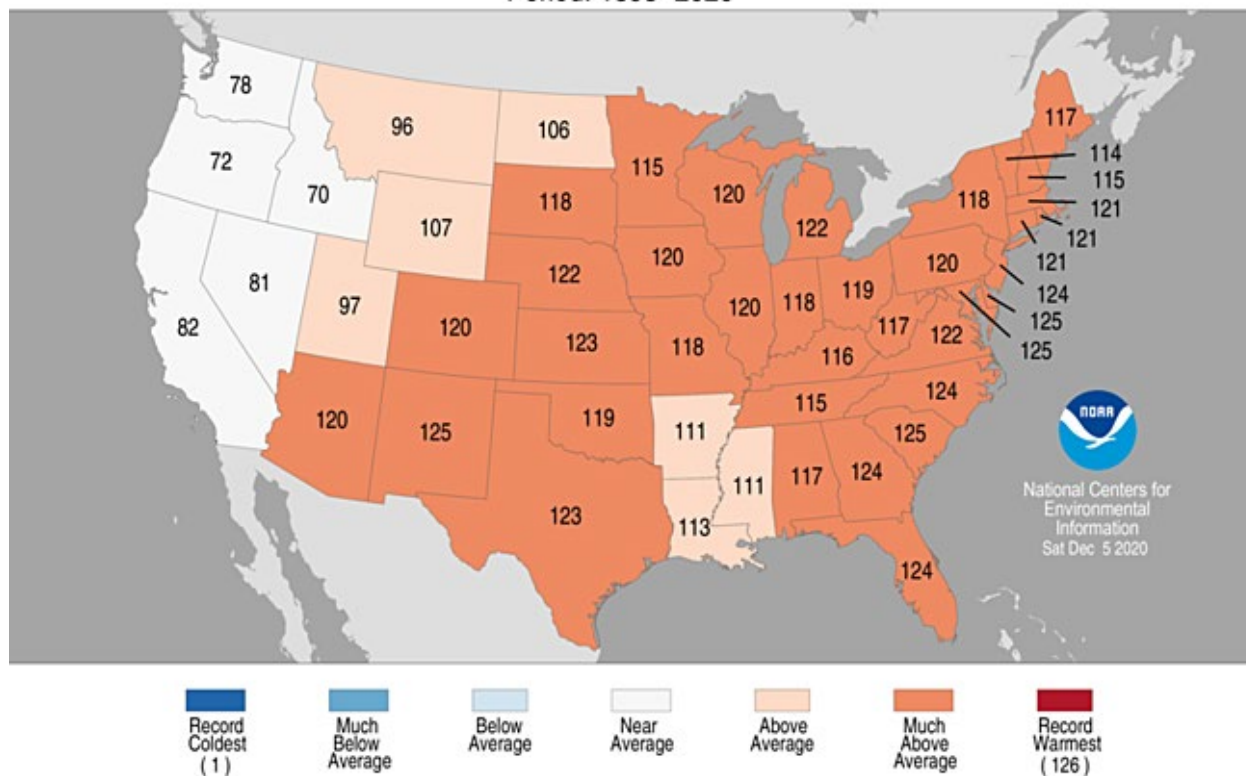
Rob Leesman

December 16, 2020

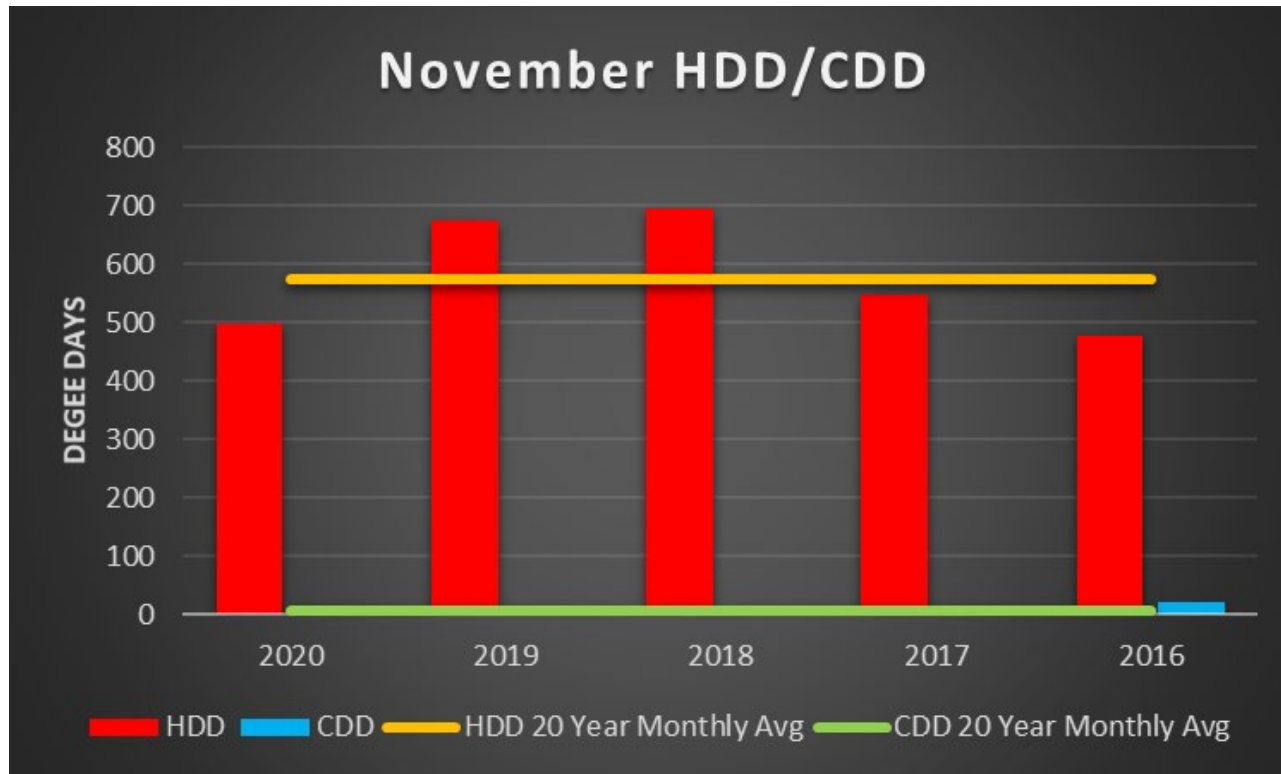
Statewide Average Temperature Ranks

November 2020

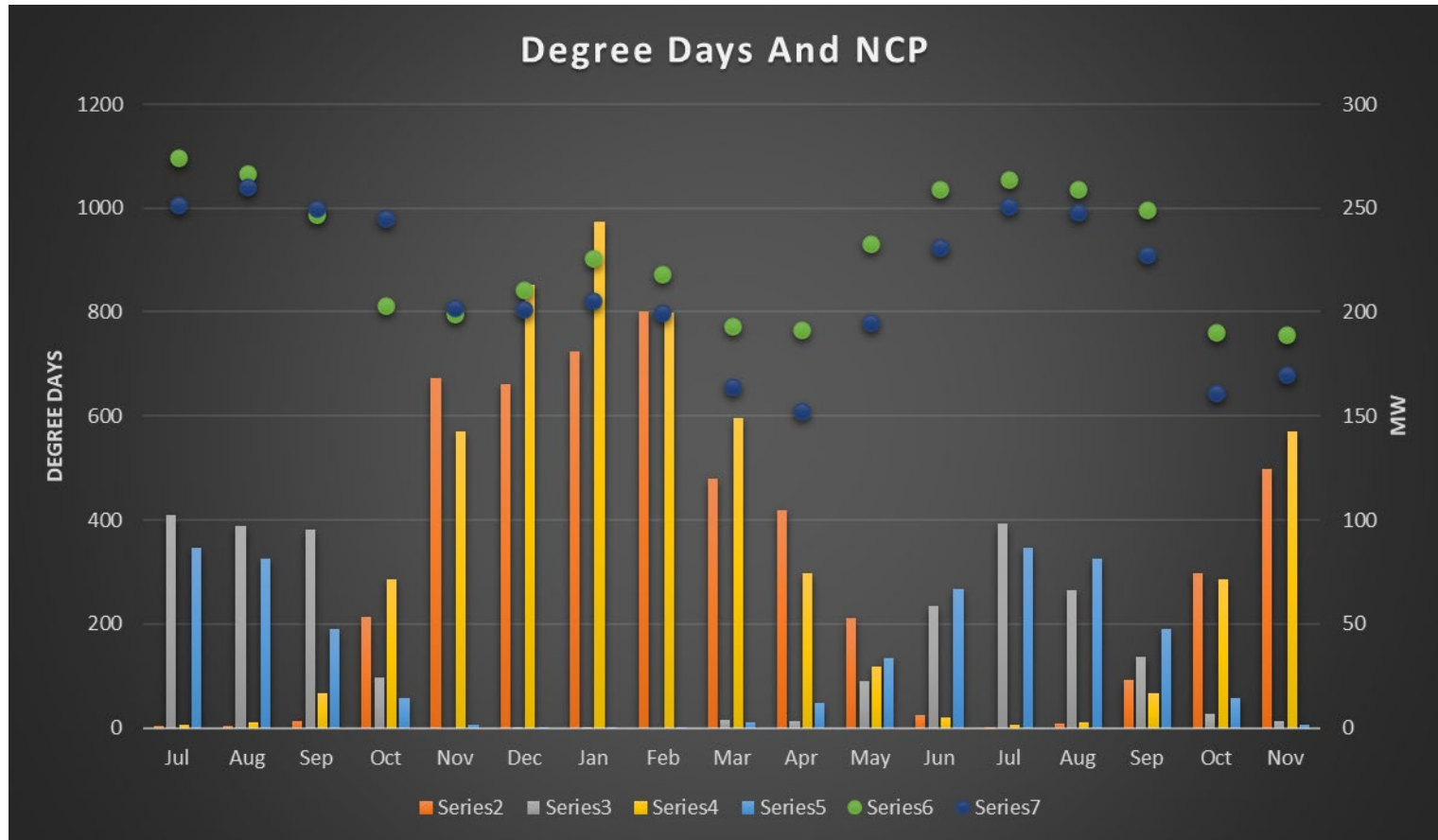
Period: 1895-2020



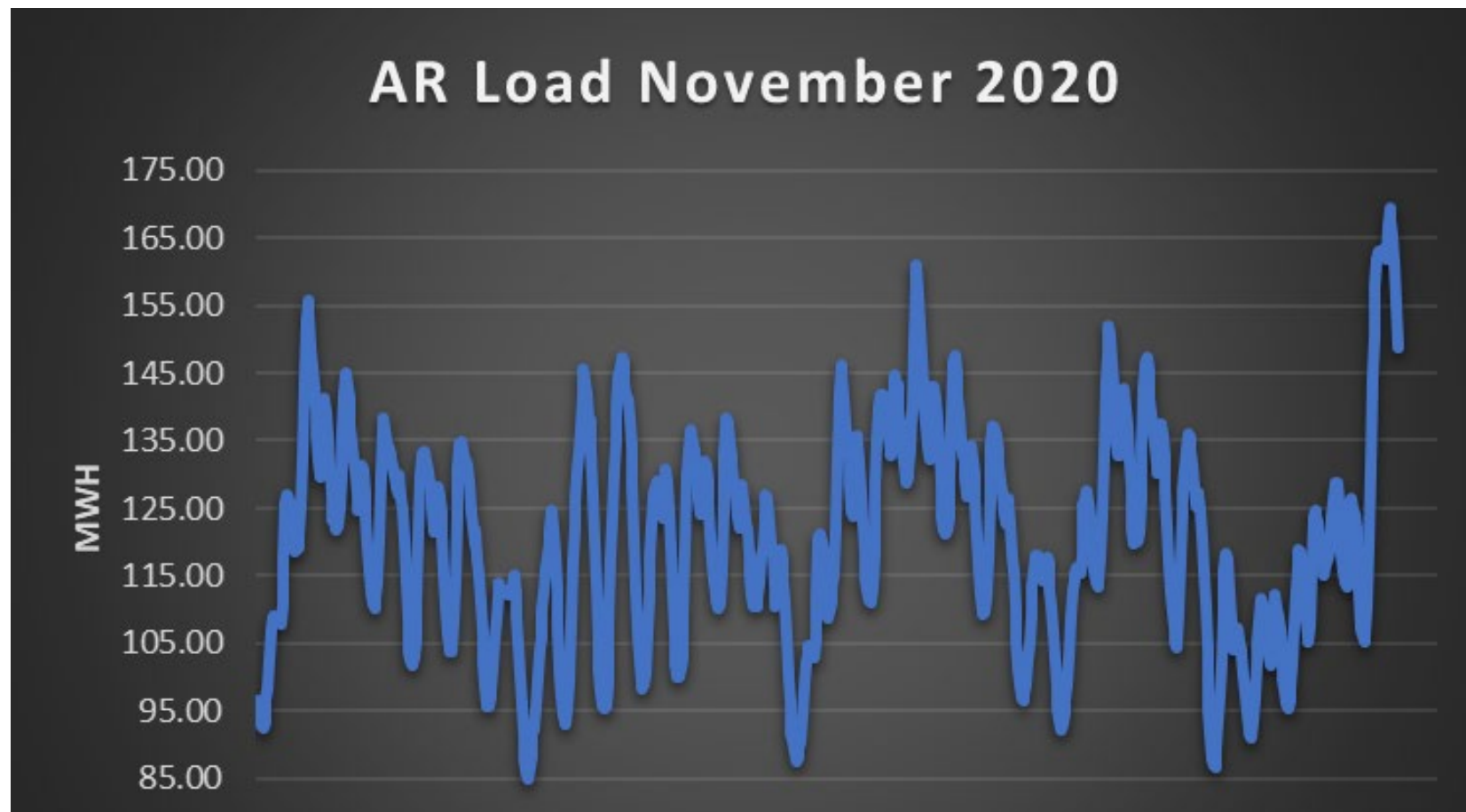
Degree Days



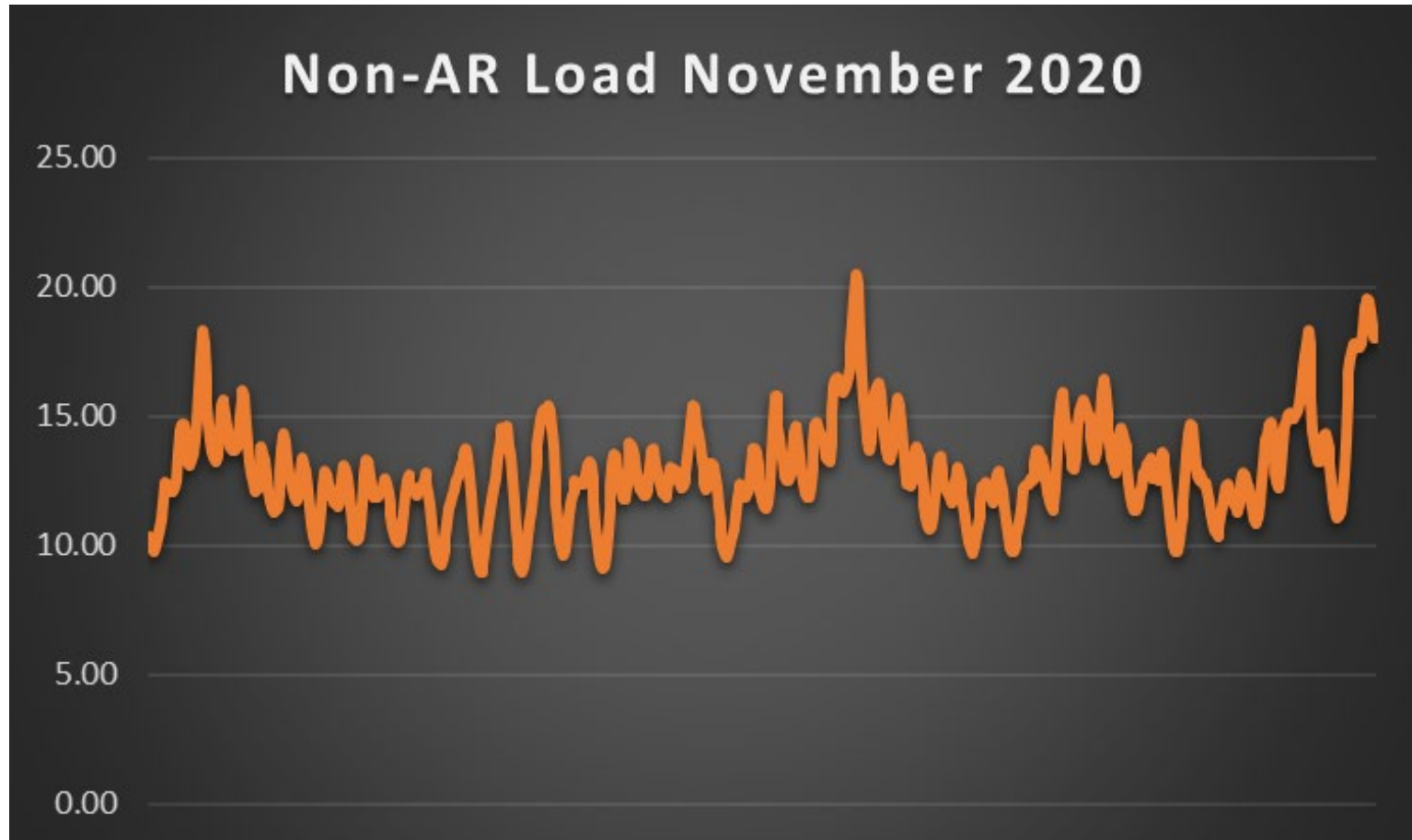
Degree Days



AR Load November 2020



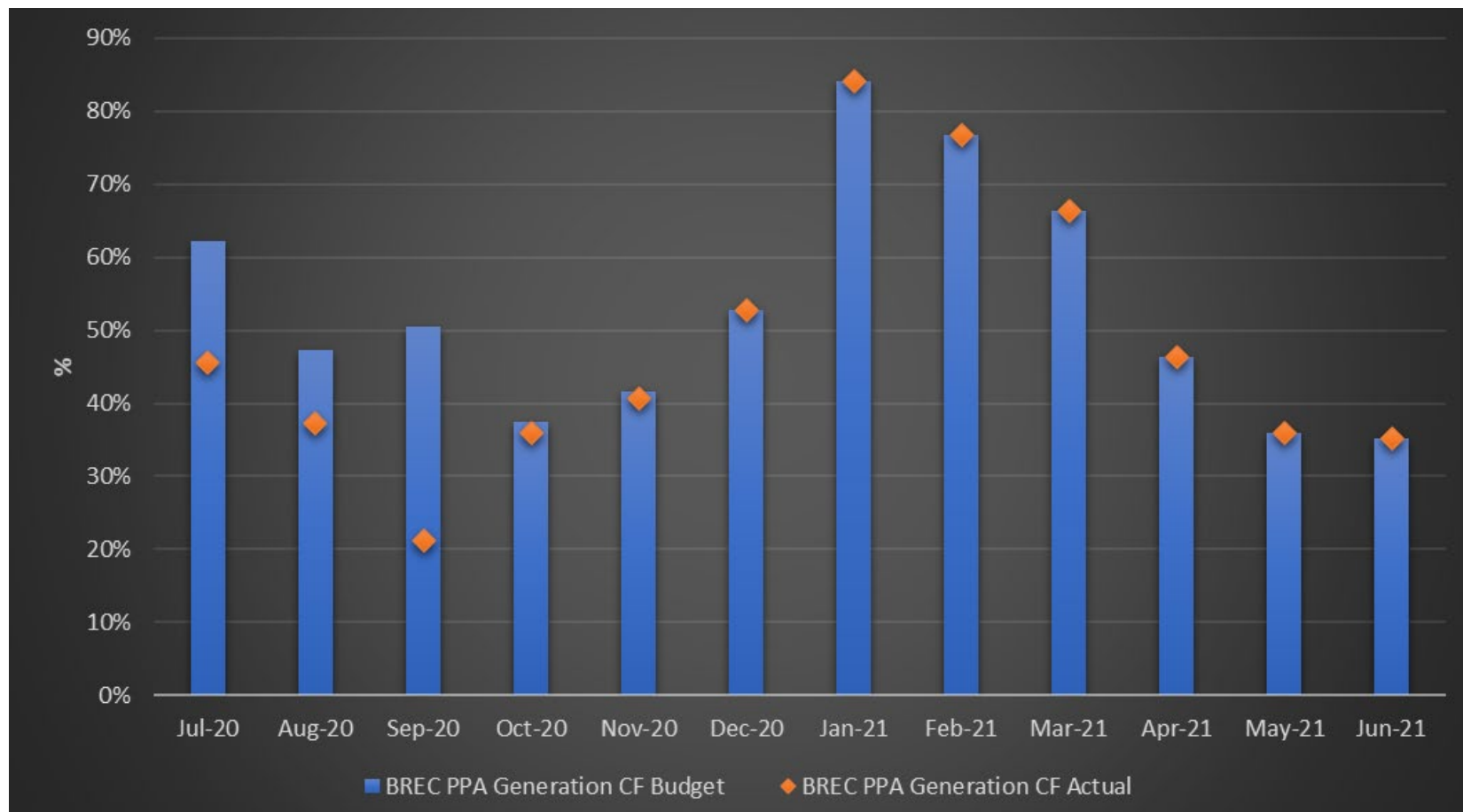
Non-AR Load November 2020



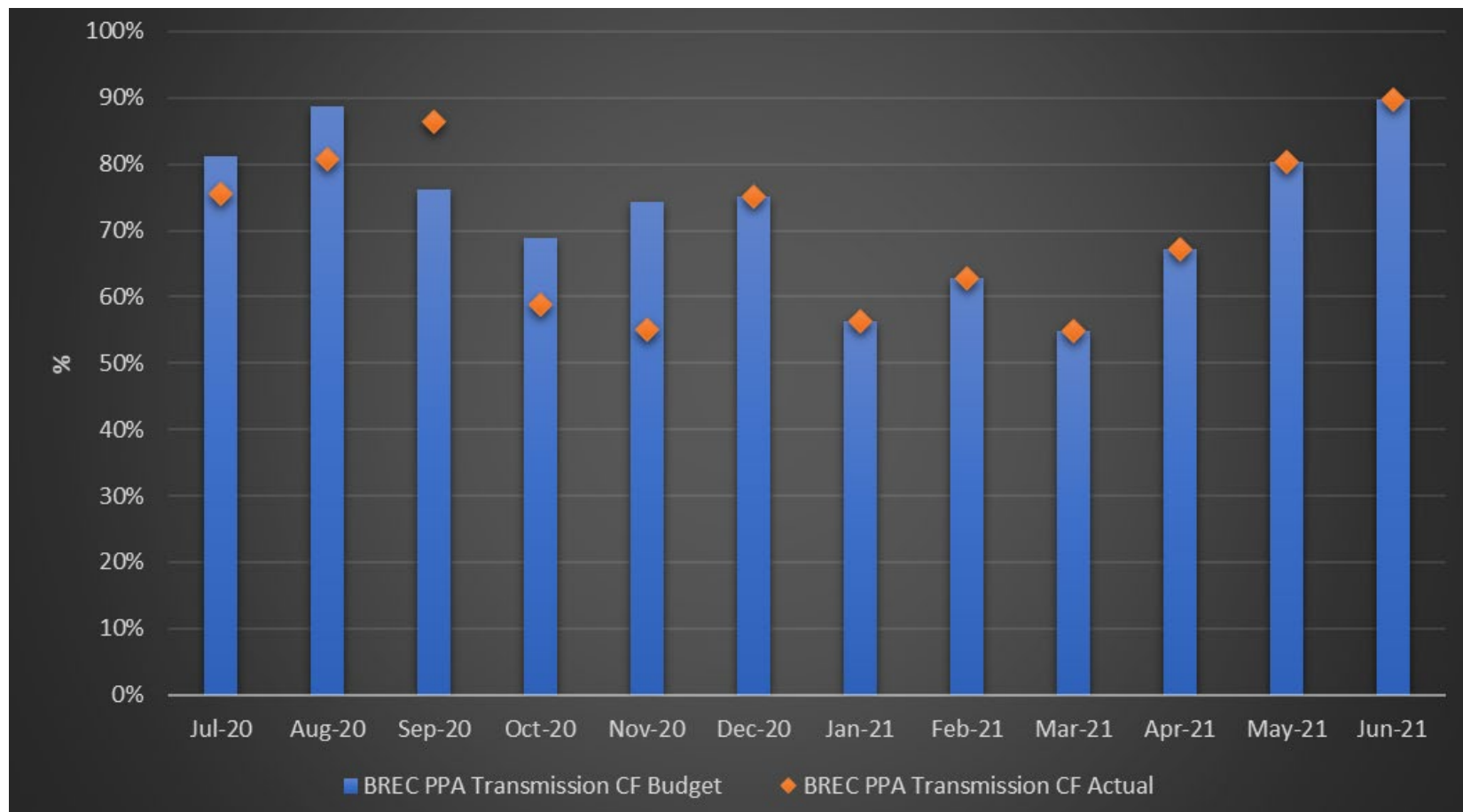
November 2020 Snapshot

Nov-20							
Member	Budget Energy (MWh)	Actual Energy (MWh)	Actual vs. Budget Energy	Budget NCP (MW)	Actual NCP (MW)	Actual vs. Budget NCP	Timestamp (HE EST)
Barbourville	7,094	6,308	89%	15.12	12.93	86%	11/18/2020 9:00 AM
Bardwell	621	575	93%	1.24	1.19	96%	11/30/2020 8:00 PM
Benham	565	491	87%	1.63	1.29	79%	11/19/2020 7:00 AM
Berea	10,292	8,788	85%	22.60	19.18	85%	11/18/2020 8:00 AM
Corbin	6,397	5,565	87%	13.36	11.66	87%	11/30/2020 2:00 PM
Falmouth	1,408	1,296	92%	2.63	2.48	95%	11/30/2020 6:00 PM
Frankfort	54,029	47,634	88%	104.33	91.67	88%	11/30/2020 7:00 PM
Madisonville	21,535	18,906	88%	38.55	35.15	91%	11/30/2020 8:00 PM
Owensboro	58,261	55,000	94%	103.00	102.00	99%	
Paris	4,644	4,518	97%	10.14	10.77	106%	11/30/2020 7:00 PM
Providence	2,028	2,007	99%	3.99	4.38	110%	11/30/2020 7:00 PM
AR	97,757	86,810	89%	189.34	170.24	90%	
Non-AR	10,857	9,280	85%	24.23	20.48	85%	
All	108,614	96,090	88%	213.57	190.72	89%	
Total	166,875	151,090	91%	316.57	292.72	92%	

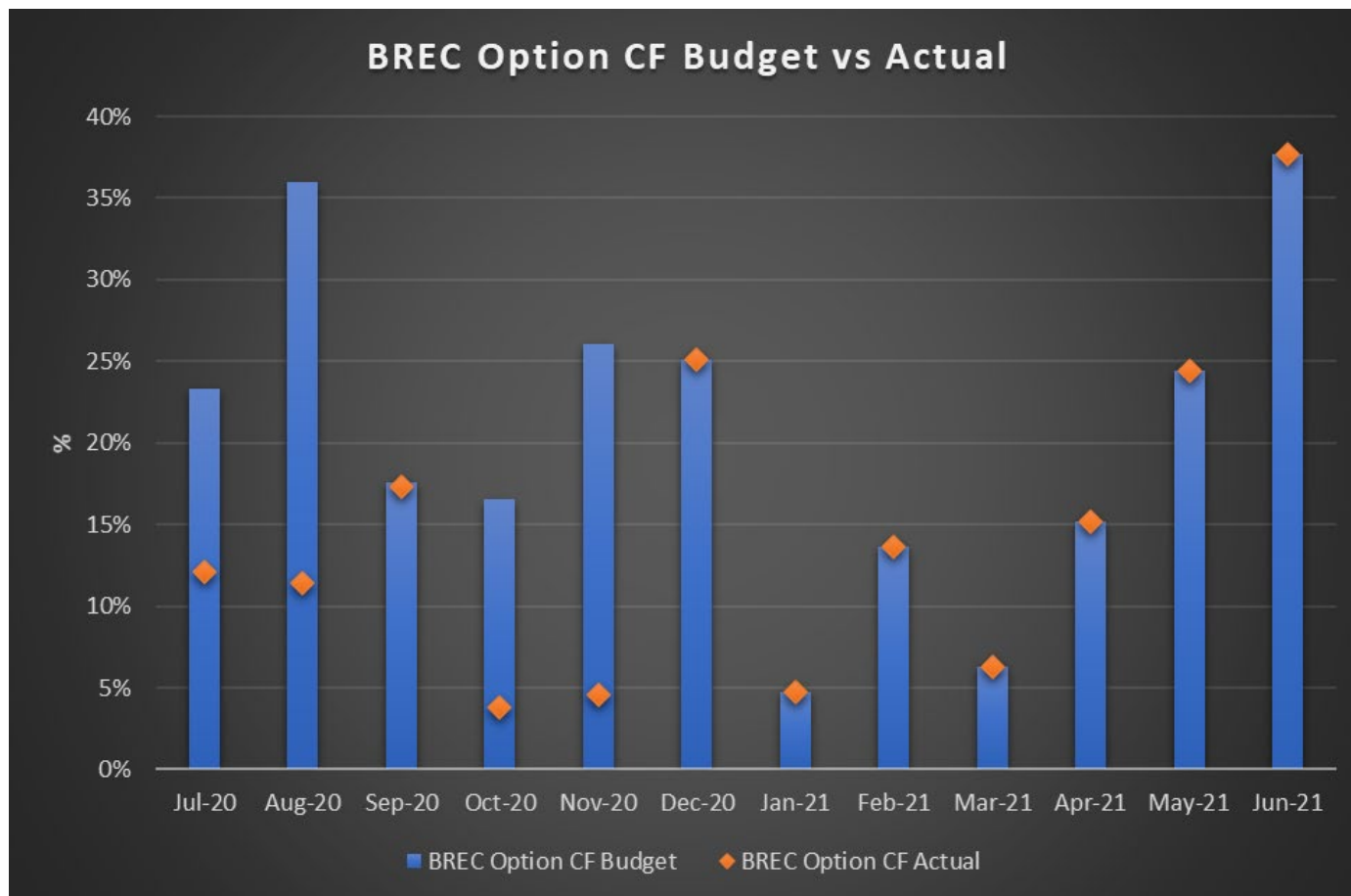
BREC Gen PPA Capacity Factor



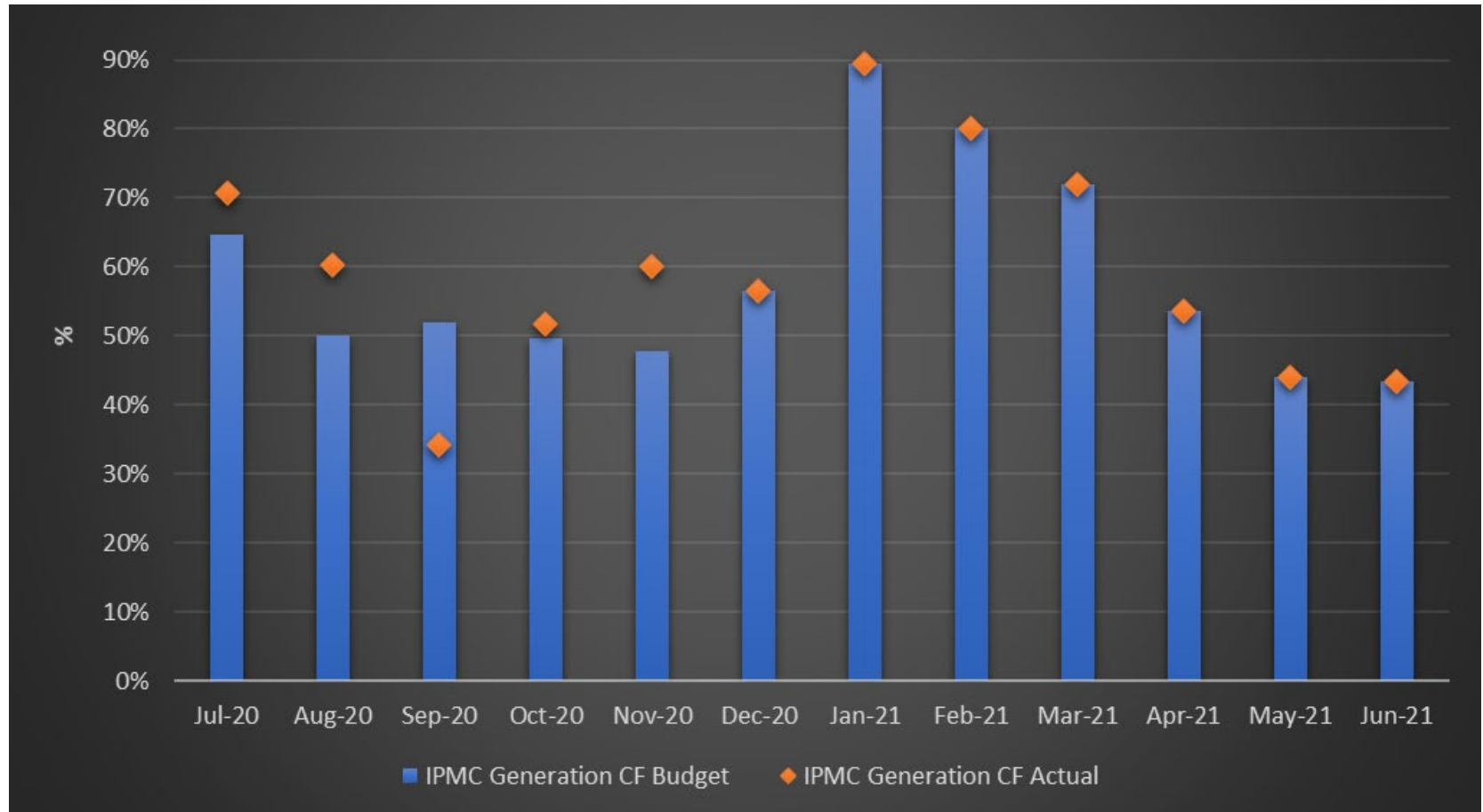
BREC Trans PPA Capacity Factor



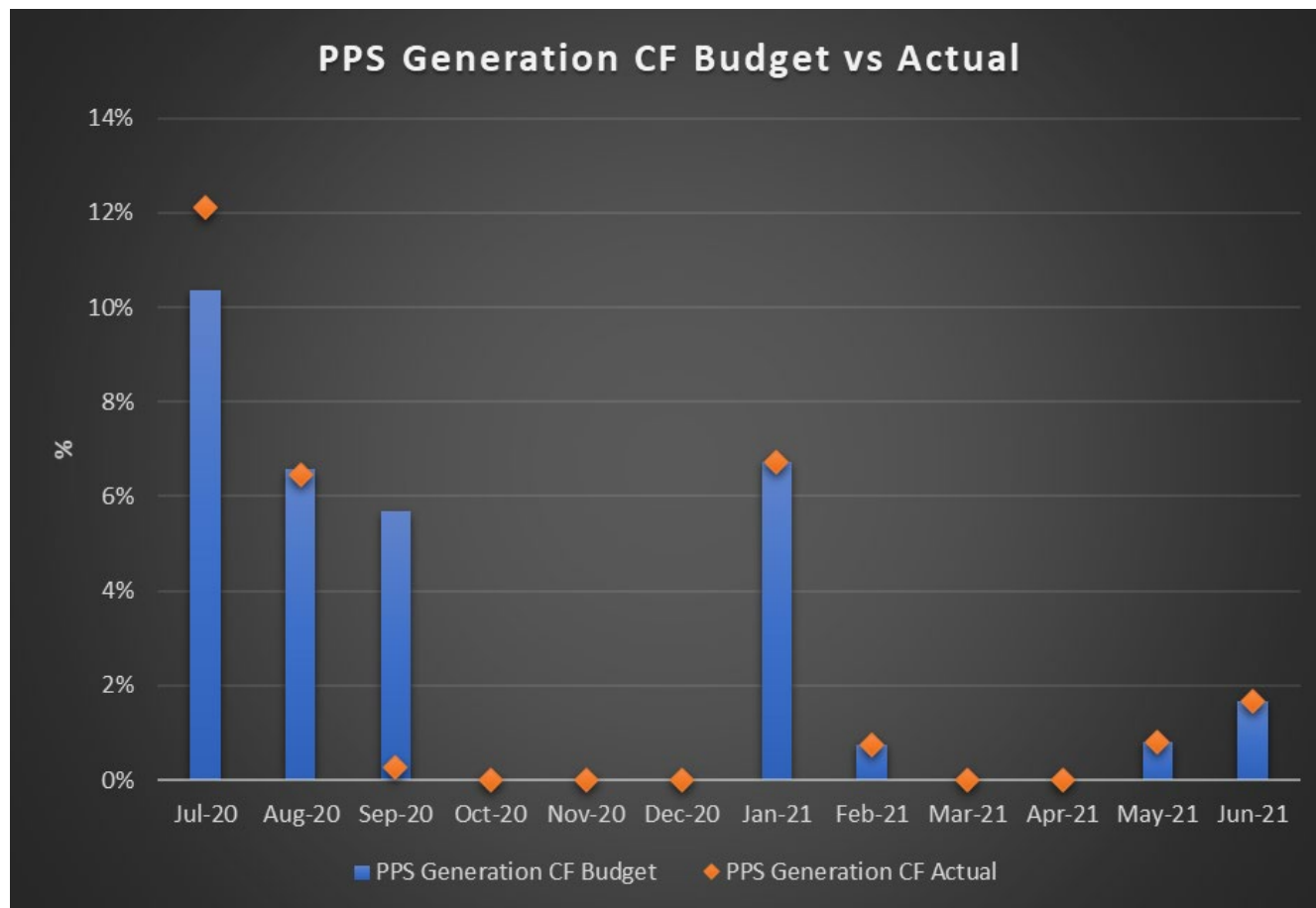
BREC Option Capacity Factor



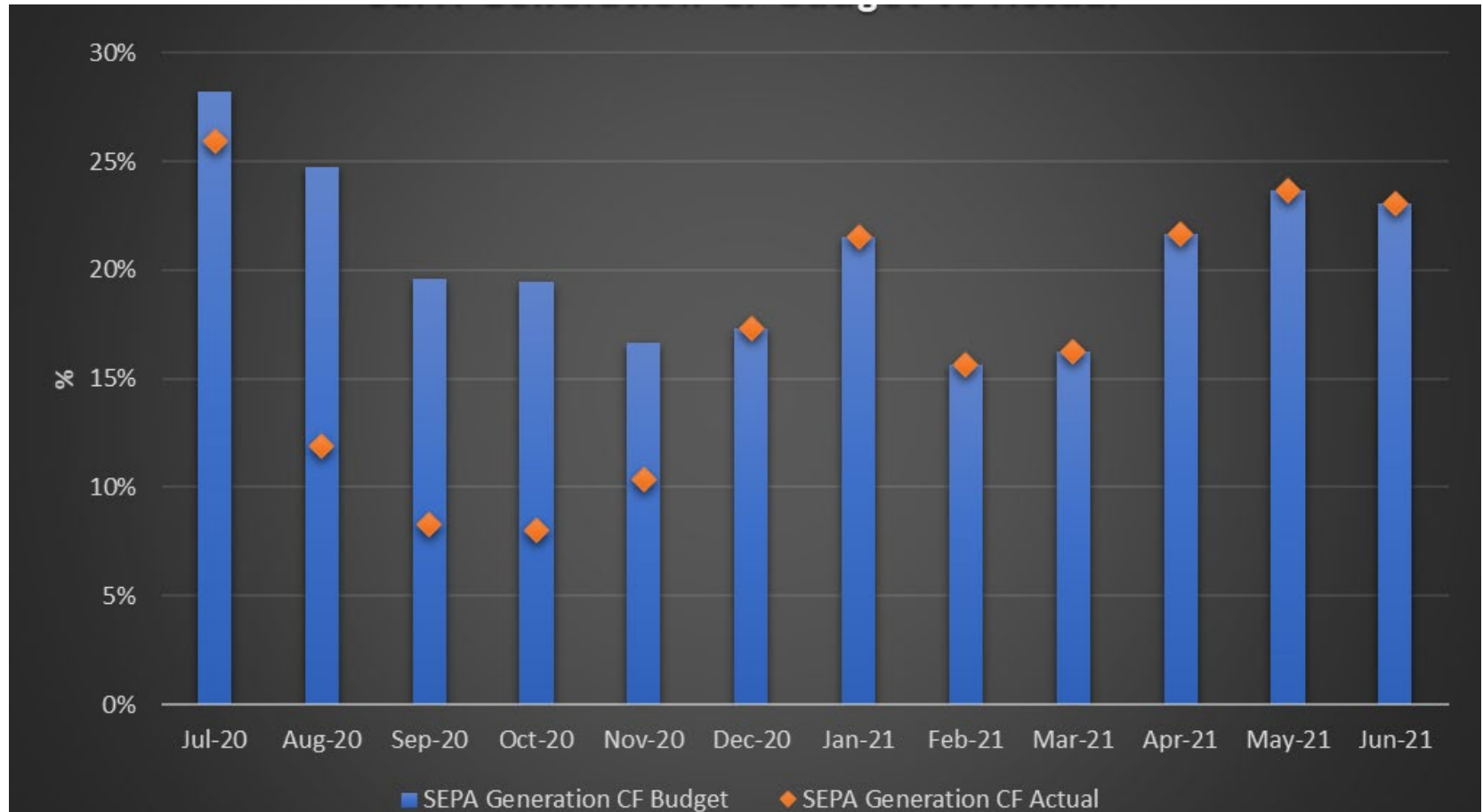
EEI/LGEE Capacity Factor



PPS PPA Capacity Factor

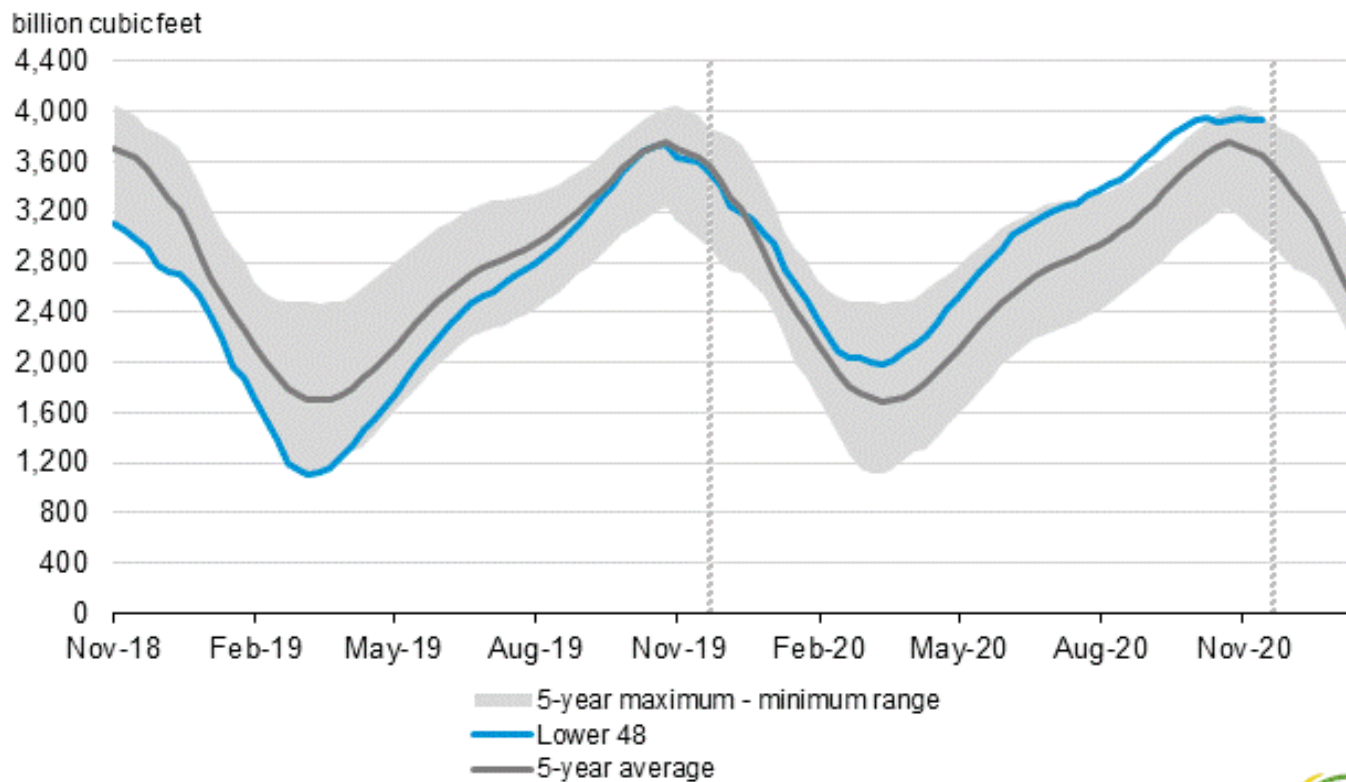


SEPA Capacity Factor



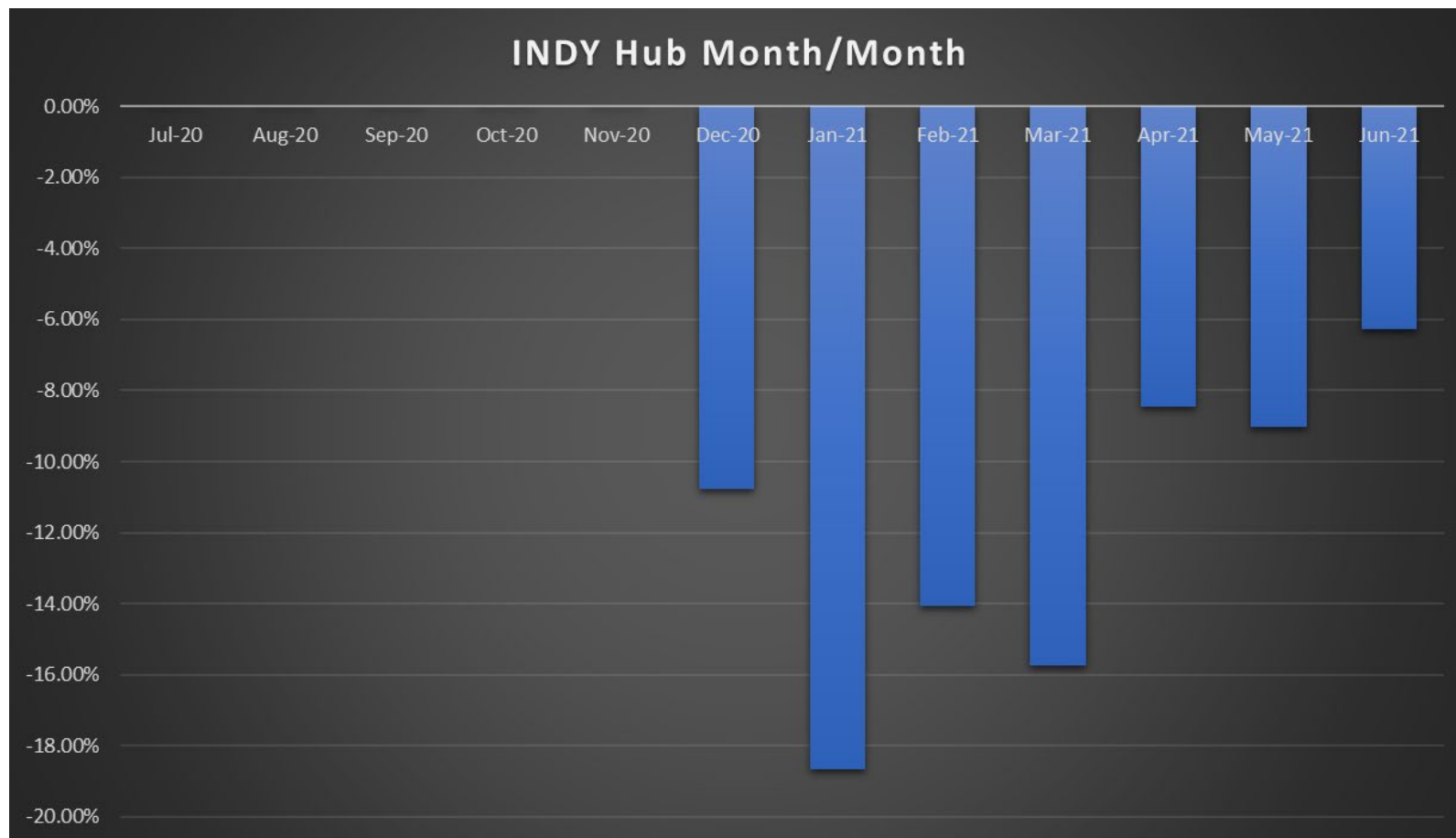
Working Gas in Storage

Working gas in underground storage compared with the 5-year maximum and minimum

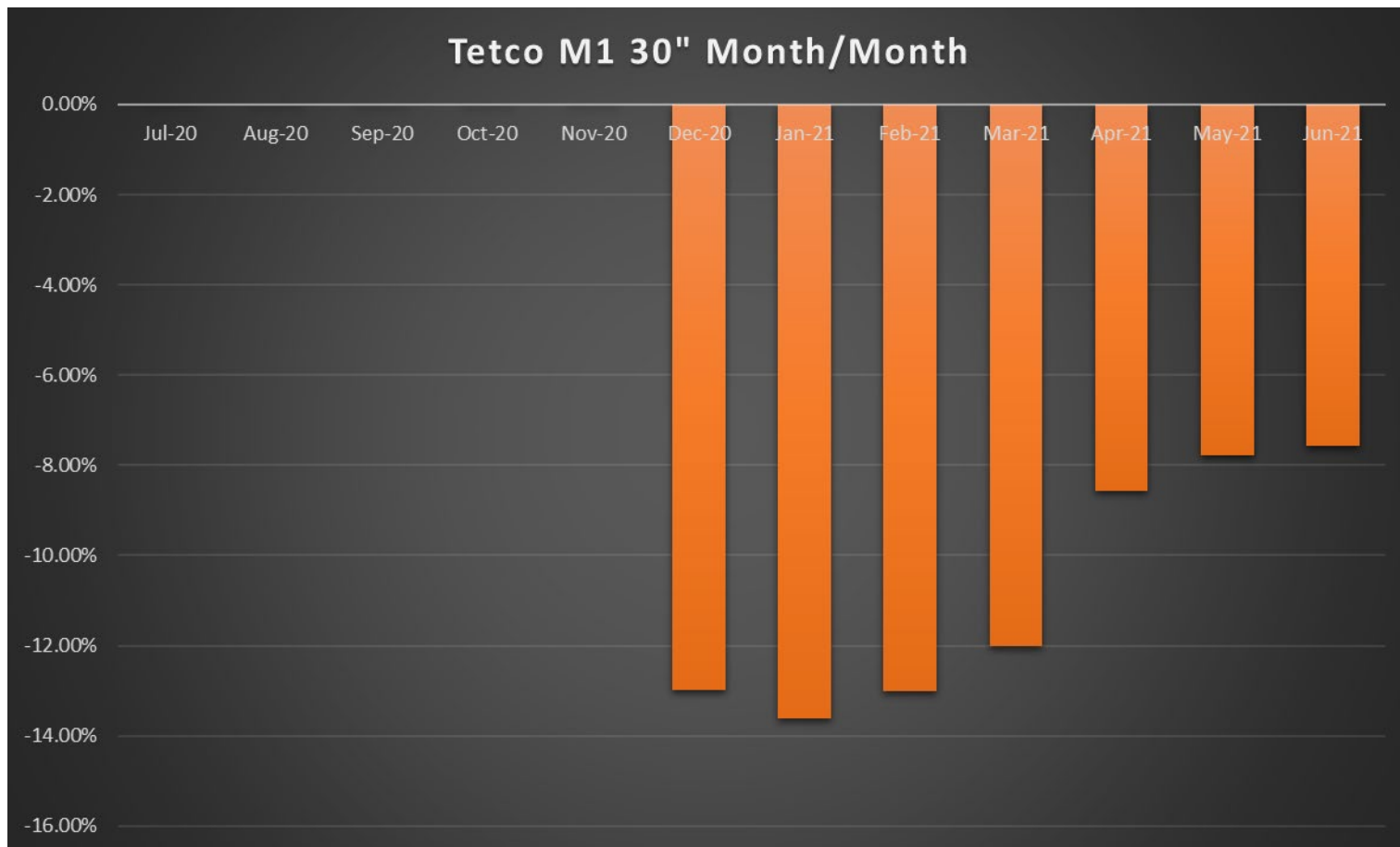


Source: U.S. Energy Information Administration

Indiana Hub ATC



Tetco M1 30"





KENTUCKY MUNICIPAL ENERGY AGENCY



Member Communications

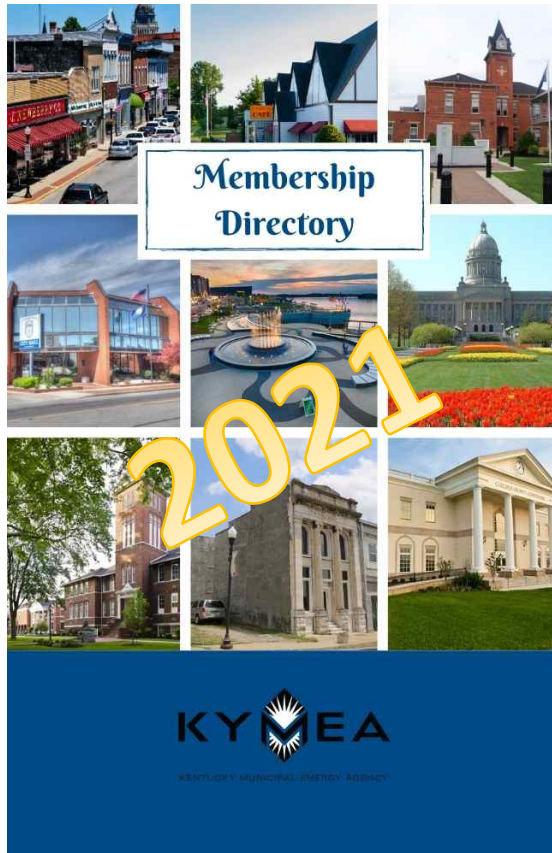
Michelle Hixon

December 16, 2020

Dates to Remember

December	
24 th -25 th	Office Closed for Christmas
January	
1 st	Office Closed for New Years Day
27 th at 3 PM	AR Rates Workshop
28 th at 10 AM	KYMEA Board Meeting

2021 Member Directory



Please let us know if any of the following has changed and should be updated.

- Director or Alternate Director
- Mayor
- Board Members, Council Members, or Commissioners
- Attorney
- City Administrator

December 2020 Newsletter

DECEMBER 2020, ISSUE 8

KYMEA POWER POST

A Quarterly Publication by KYMEA.

COVID-19 and its Impact on Demand

The year 2020 has demonstrated historical and unpredictable events for the entire world. It has been 100 years since our nation experienced the most severe pandemic in recent history.

COVID-19 has reeled havoc on every aspect of our lives. KYMEA members and their communities are seeing unprecedented local impacts. Restaurants have been hit hard with indoor dining coming to a halt. State government offices resorted to remote working. Kentucky schools have transitioned over 647,000 students to virtual learning. We will no doubt be feeling COVID-19 affects for many years.

Analysts are hard at work trying to understand many aspects of the pandemic as it continues its ripple across the world. Along with that many are projecting the long-term impact the energy industry will see as a result. In the near term, manufacturing and production facilities are seeing the largest impact causing a decrease in industrial demand for electricity. The impacts trickle down to local utilities who base rates on historical customer demand.

Even though many office and non-essential workers have shifted to a remote workforce which has resulted in small increases in residential demand in various demographics, the overall demand decrease for outweights the increase in residential customer demand of electricity from at-home workers and homeschoolers.

Steve Jobs once said "Innovation is the ability to see change as an opportunity - not a threat." This is the attitude many commercial, retail, and industrial utility customers have displayed by continuing to faithfully serve their customers with innovative solutions to combat the impact of COVID on their businesses and industries.

Until the virus runs its course, the pandemic continues its toll on the country, businesses, and the American people. Reductions in electricity demand will follow suit. The American spirit in all of us will not give up and will continue to fight with creativity and innovation so that our families and communities pull through with minimal harm.

P. 2 Quantitative vs. Qualitative Analysis

P. 3 Non-RTD vs. RTD

P. 4 Capacity Auction: MOPR

P. 6 Markets' Role in Reliability

KYMEA Power Post Page 1

January	July
27 th All Rates Workshop-3pm	22 nd All Committee-10am
February	August
15 th All Rates Workshop-10am	
25 th All Committee-10am	
March	September
1 st IRC Committee-10am	10 th IRC Committee-10am
25 th BRCC Committee-8:30am	15 th Executive-Virtual 10:00am
28 th All Committee-10am	24 th BRCC-10am
April	October
May	November
	16 th Budget Committee-2pm
	17 th Compensation Committee-8:30am
June	December
11 th IRC Committee-10am	27 th IRC Committee-10am
25 th BRCC Committee-8:30am	14 th Budget Committee-2pm
	15 th BRCC Committee-8:30am
	15 th All Rates Workshop-2pm

MONTH	DATE	LOCATION	MONTH	DATE	LOCATION
JANUARY	1/28 10 AM EST	KYMEA Board Room	JULY	7/22 10 AM EST	KYMEA Board Room
FEBRUARY	2/25 10 AM EST	KYMEA Board Room	AUGUST	8/26 10 AM EST	KYMEA Board Room
MARCH	3/25 10 AM EST	KYMEA Board Room	SEPTEMBER	9/23 10 AM EST	KYMEA Board Room
APRIL	4/22 10 AM EST	KYMEA Board Room	OCTOBER SPECIAL MEETING	10/20 10 AM EST	KYMEA Board Room
MAY - ANNUAL MEETING	5/28 10 AM EST	KYMEA Board Room	NOVEMBER	11/17 10 AM EST	KYMEA Board Room
JUNE	6/24 10 AM EST	KYMEA Board Room	DECEMBER	12/15 10 AM EST	KYMEA Board Room

DISCOVER THE POWER OF ENERGY OPTIONS

JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE
S M T W T F S	S M T W T F S	S M T W T F S	S M T W T F S	S M T W T F S	S M T W T F S
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31
JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
S M T W T F S	S M T W T F S	S M T W T F S	S M T W T F S	S M T W T F S	S M T W T F S
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

The KYMEA Board of Directors shall hold its regular meetings on the fourth Thursday of each month, except for the months of November and December when the regular meeting shall be held on the third Wednesday. The regular meetings shall convene and commence at 10:00 AM Eastern time on said dates. The regular meetings shall be held at the KYMEA Board Room, 1100 Eastwold Drive, Suite 200, Louisville, Kentucky.

The December 2020 Newsletter will be arriving in your mailbox soon. You can go to www.kymea.org to read the electronic version. 2021 Board and Committee calendars are also available on the website.



*Merry
Christmas*

Discussion Topics and Miscellaneous Materials

F. Discussion Topics

F.1 Short-Term Plan Options





KENTUCKY MUNICIPAL ENERGY AGENCY



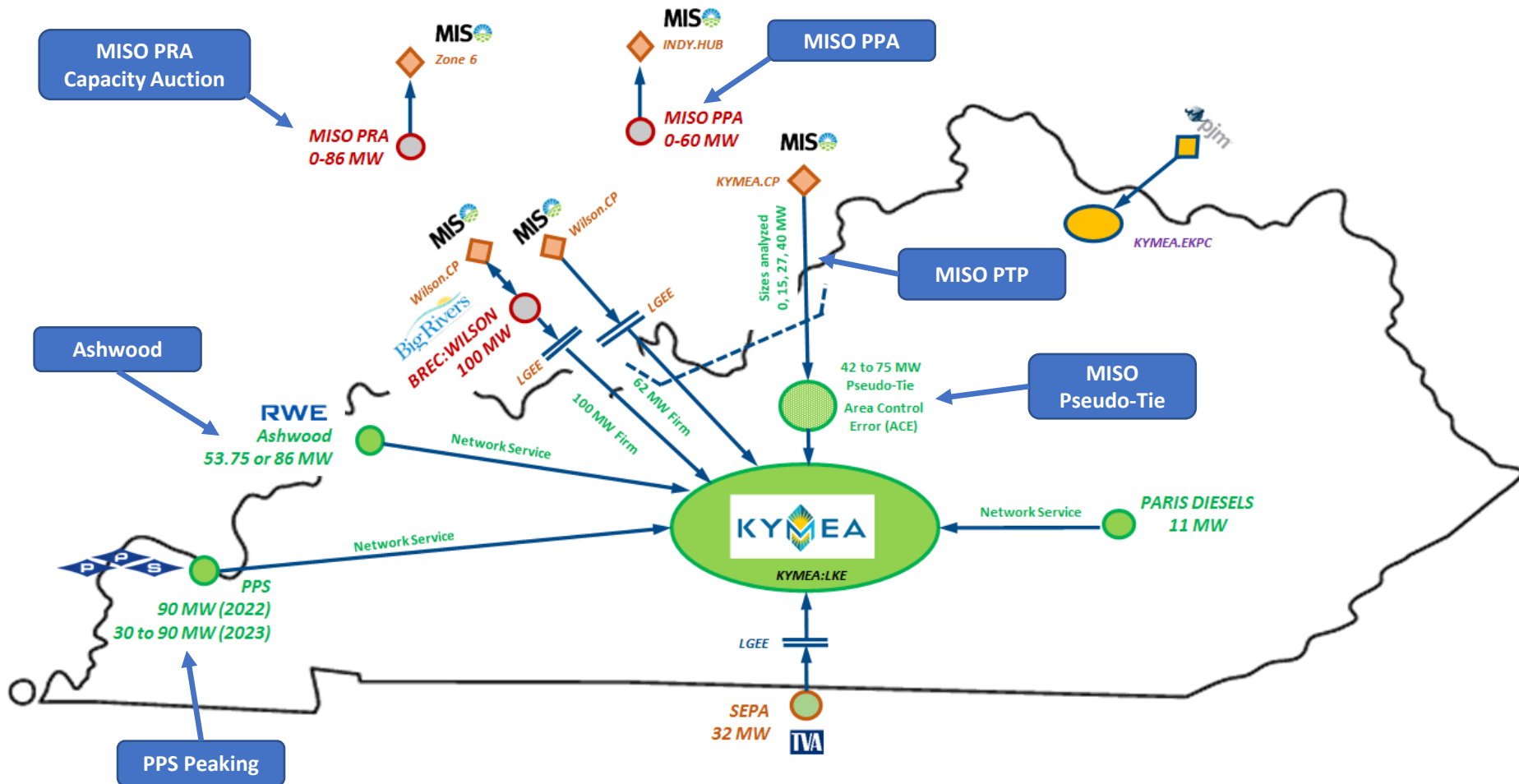
KYMEA Short-Term Action Plan Discussion

December 16, 2020

AGENDA

1. **Six (6) Short-Term Decision Elements**
 - a) **PPS Peaking Capacity (30 to 90 MW)**
 - b) **Ashwood Solar Size (53.75 or 86 MW)**
 - c) **MISO PPA (0 to 60 MW) / MISO PRA (0 to 85 MW)**
 - d) **MISO Point-to-Point Transmission / Pseudo-Tie**
 - i. **MISO point-to-point transmission options for each plan (15 or 40 MW)**
 - ii. **Plan B has three PTP options (0, 15, or 40 MW)**
 - iii. **Pseudo-tie Ashwood 54 MW: 42 MW pseudo-tie (+/- 2 stdev)**
 - iv. **Pseudo-tie Ashwood 86 MW: 67 MW pseudo-tie (+/- 2 stdev)**
2. **Eleven (11) Short-Term Plans**
 - a) **Each plan is a combination of the six decision elements**
3. **Plan Selection: Decision Criteria**
 - a) **Expected Cost**
 - b) **Market Exposure**
 - i. **Low Market Opportunity**
 - ii. **High Market Price Risk**
 - c) **Operating Risk**
 - i. **Seasonal (Summer/Winter)**
 - ii. **Time of Day**
4. **Plan Recommendation**

Six Short-Term Decision Elements



AGENDA

1. Six (6) Short-Term Decision Elements
 - a) PPS Peaking Capacity (30 to 90 MW)
 - b) Ashwood Solar Size (53.75 or 86 MW)
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 - ii. Time of Day
4. Plan Recommendation

Eleven Short-Term Plans

	Firm Capacity and Reserve Margin					MISO PRA, MISO Point-to-Point Transmission, Operating Reserves					Levelized Cost millions \$ (6/2019 - 5/2027)			Levelized Cost ¢ per kWh (6/2019 - 5/2027)		
	Firm Capacity	PPS Peaking	Ashwood Solar	MISO PPA	Reserve Margin	MISO PRA	Pseudo Tie	MISO PTP	Operating Margin	N-1 OP Margin	Low Market	Base Market	High Market	Low Market	Base Market	High Market
Plan A	159	30	54	0	-17.4%	86 15.3%	75 (42 min)	185 (27) 202 (40)	1.8% 12.0%	-10.4% -0.2%	64.933 66.044	70.391 71.499	73.188 74.294	5.019 5.105	5.441 5.526	5.657 5.742
Plan B	159	90	54	0	5.5%	48 23.7%	42 (42 min)	177 (0) 177 (15) 202 (40)	20.1% 26.2% 36.4%	-16.5% -10.4% -0.2%	64.913 65.603 67.275	69.945 70.626 72.295	71.969 72.641 74.308	5.017 5.070 5.200	5.406 5.459 5.588	5.562 5.614 5.743
Plan C	159	30	54	60	5.5%	26 15.3%	74 (42 min)	177 (15) 202 (40)	1.8% 12.0%	-10.4% -0.2%	66.474 68.147	70.103 71.770	70.881 72.545	5.138 5.267	5.418 5.547	5.478 5.607
Plan D	159	45	54	45	5.5%	26 15.3%	62 (42 min)	177 (15) 202 (40)	7.9% 18.1%	-10.4% -0.2%	66.280 67.953	70.173 71.840	71.154 72.819	5.123 5.252	5.424 5.553	5.499 5.628
Plan E	159	60	54	30	5.5%	26 15.3%	49 (42 min)	177 (15) 202 (40)	14.0% 24.2%	-10.4% -0.2%	66.081 67.754	70.245 71.914	71.431 73.096	5.107 5.237	5.429 5.558	5.521 5.650
Plan F	159	30	86	0	-11.3%	77 17.9%	67 (67 Min)	177 (15) 202 (40)	1.8% 12.0%	-10.4% -0.2%	64.576 66.249	69.603 71.270	72.010 73.676	4.991 5.120	5.380 5.508	5.566 5.694
Plan G	159	75	86	0	5.9%	77 35.1%	67 (67 min)	177 (15) 202 (40)	20.1% 30.3%	-10.4% -0.2%	65.641 67.314	70.620 72.289	72.861 74.528	5.073 5.203	5.458 5.587	5.631 5.760
Plan H	159	30	86	45	5.9%	32 17.9%	67 (67 min)	177 (15) 202 (40)	1.8% 12.0%	-10.4% -0.2%	66.203 67.875	69.830 71.499	70.701 72.368	5.117 5.246	5.397 5.526	5.464 5.593
Plan I	159	45	86	30	5.9%	47 23.7%	67 (67 min)	177 (15) 202 (40)	7.9% 18.1%	-10.4% -0.2%	66.078 67.750	70.123 71.791	71.420 73.086	5.107 5.236	5.420 5.549	5.520 5.649
Plan J	159	40	86	60	15.5%	17 21.8%	67 (67 min)	177 (15) 202 (40)	5.9% 16.1%	-10.4% -0.2%	66.915 68.588	70.105 71.774	70.460 72.125	5.172 5.301	5.418 5.547	5.446 5.575
Plan K	159	60	86	30	11.7%	47 29.4%	67 (67 min)	177 (15) 202 (40)	14.0% 24.2%	-10.4% -0.2%	66.433 68.106	70.463 72.131	71.704 73.370	5.135 5.264	5.446 5.575	5.542 5.671

AGENDA

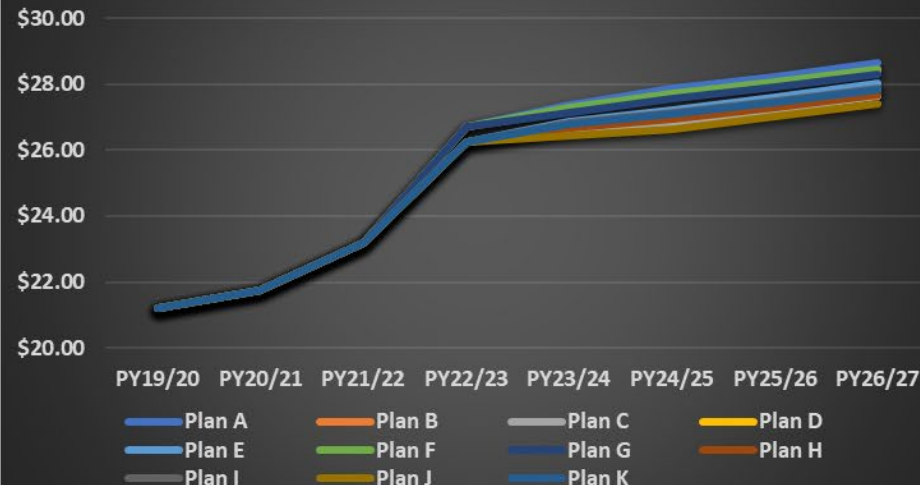
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 - ii. Time of Day
4. **Plan Recommendation**

Base Market Results

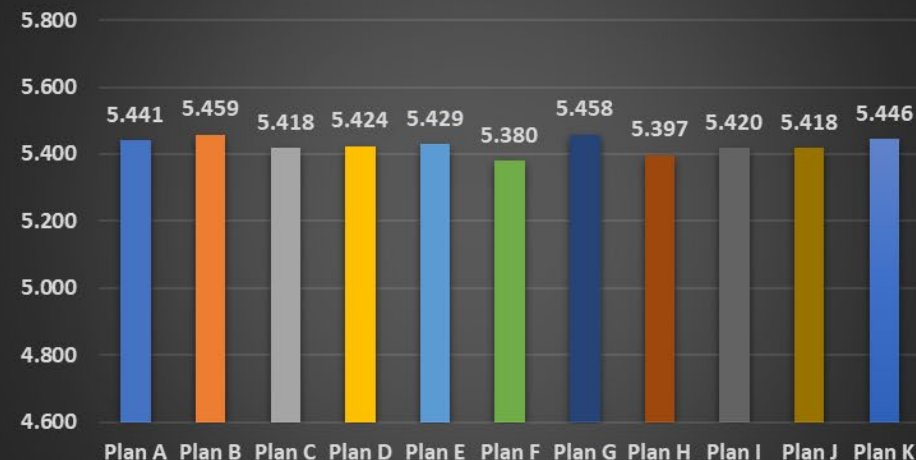
Average Production Cost (¢ per kWh)



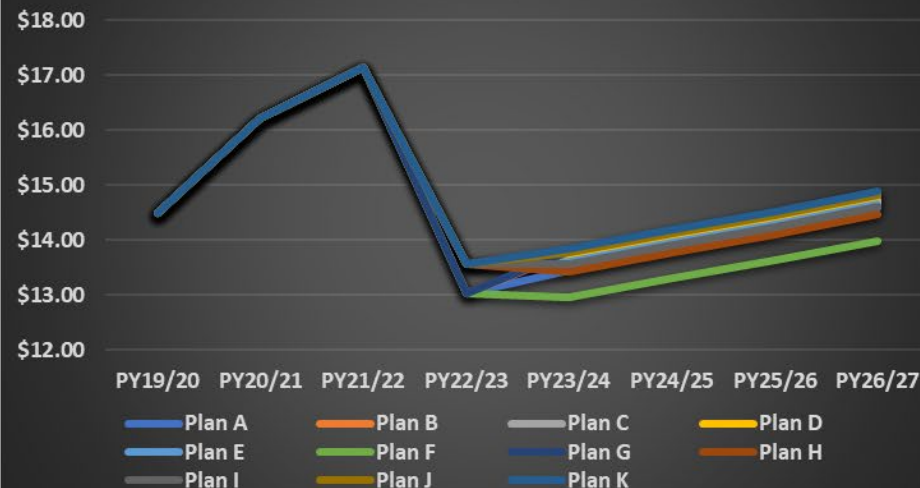
Native Load Energy Cost (\$ per MWh)



PY 19/27 Levelized Ave Cost (¢ per kWh)



Production Fixed (\$ per kW-MO)

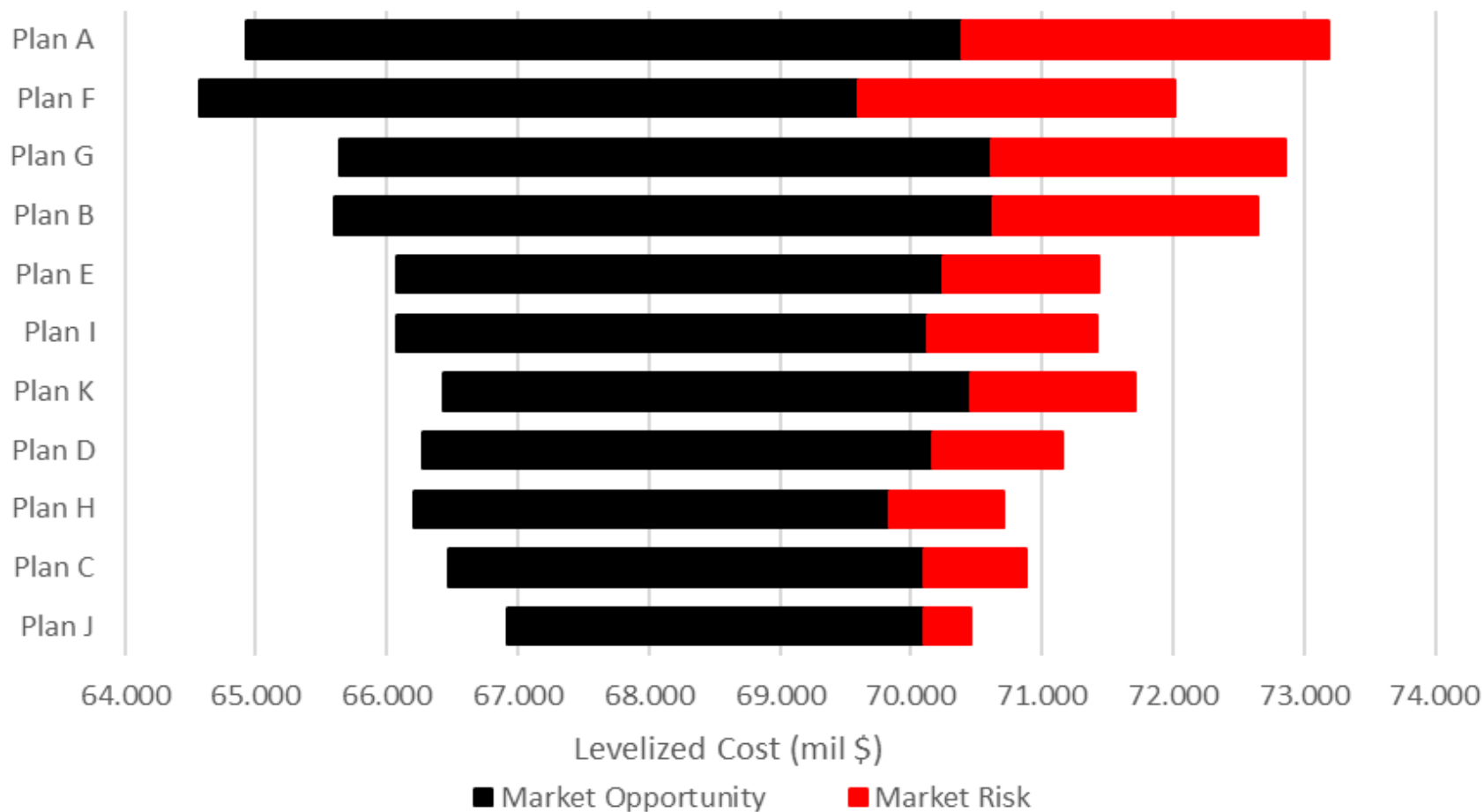


AGENDA

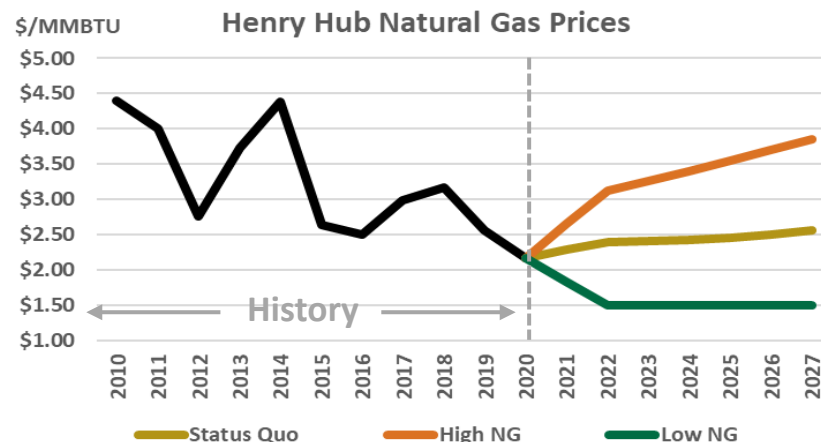
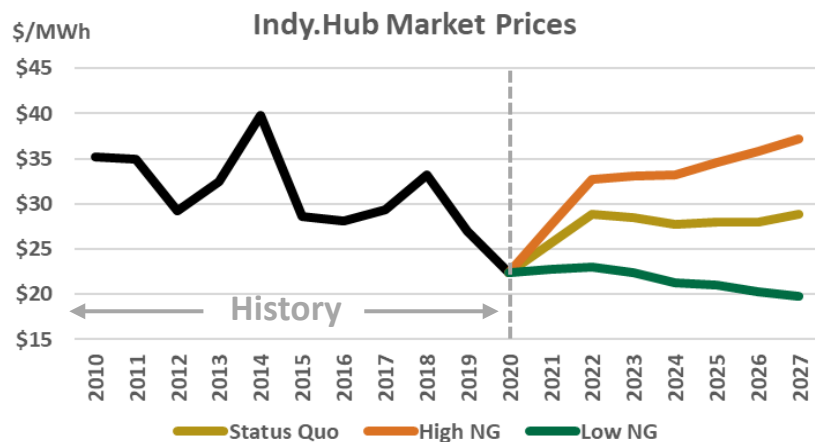
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Expected Value and Market Risk

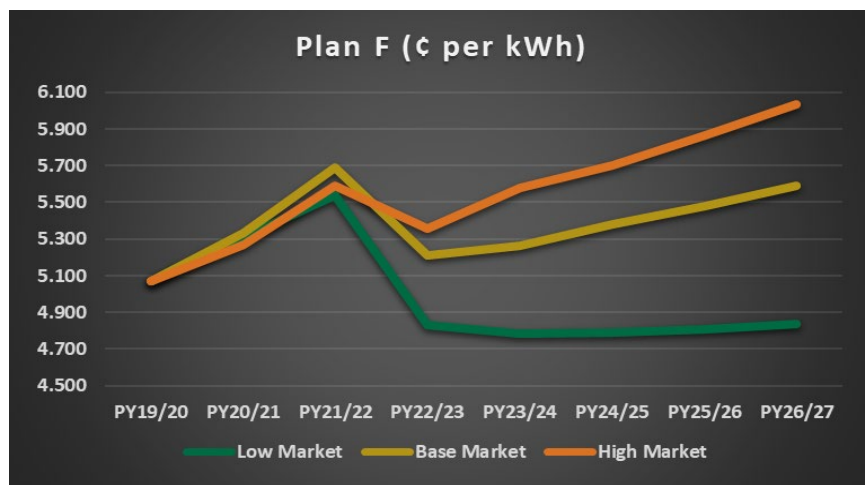
Plan(s) Expected Value and Market Risk



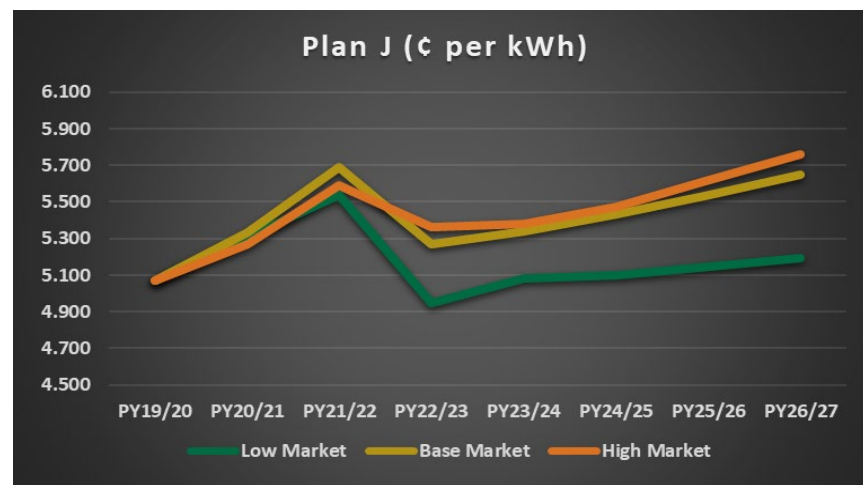
Market Uncertainty



Lowest Expected Value Plan



Lowest Risk Plan

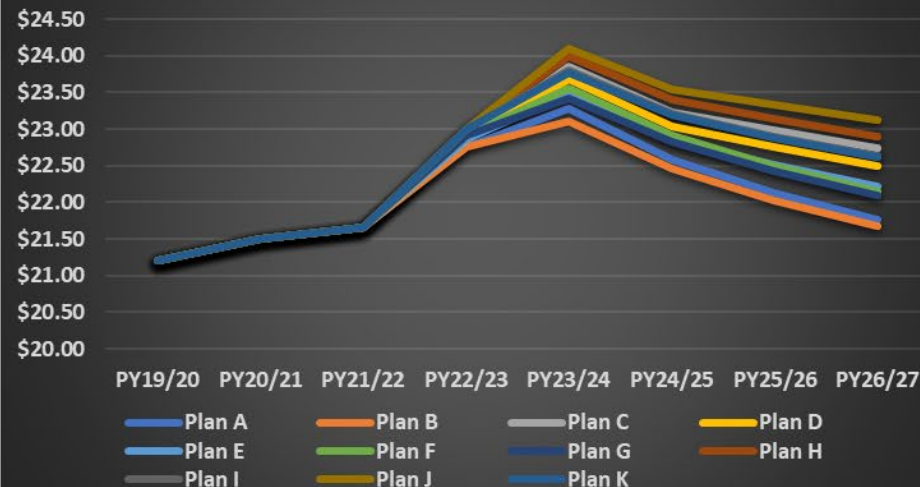


Low Market Results

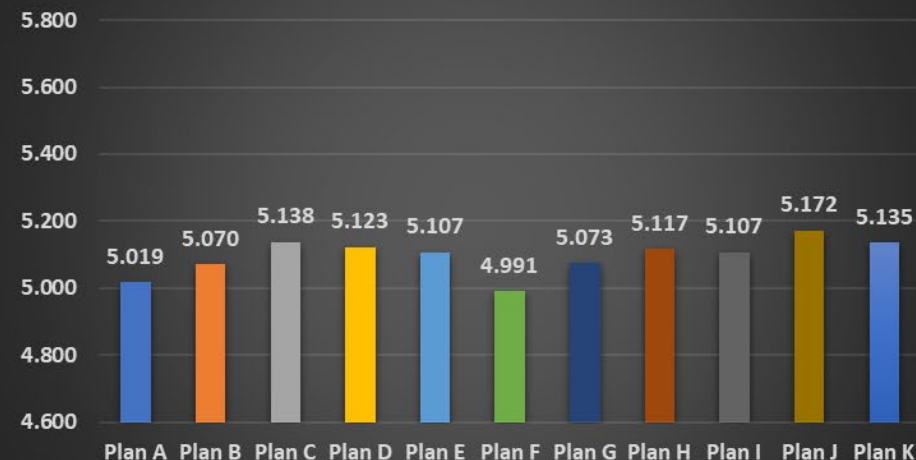
Average Production Cost (¢ per kWh)



Native Load Energy Cost (\$ per MWh)



PY 19/27 Levelized Ave Cost (¢ per kWh)



Production Fixed (\$ per kW-MO)

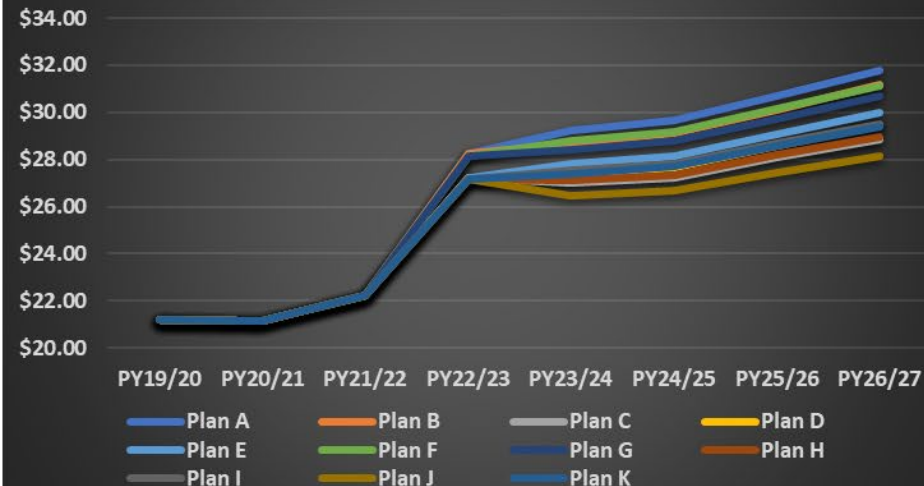


High Market Results

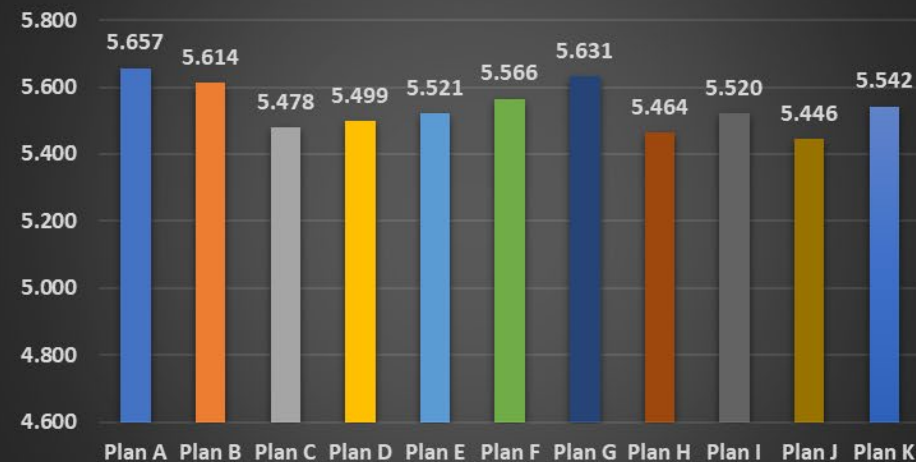
Average Production Cost (¢ per kWh)



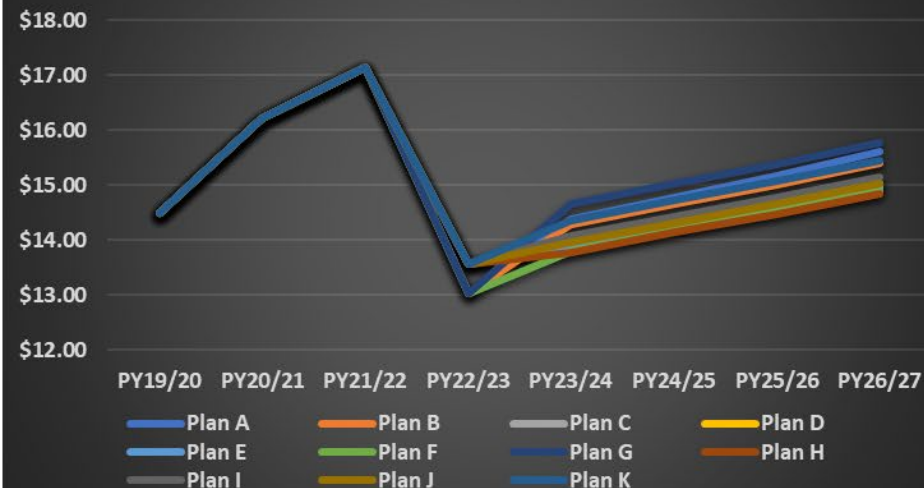
Native Load Energy Cost (\$ per MWh)



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Production Fixed (\$ per kW-MO)

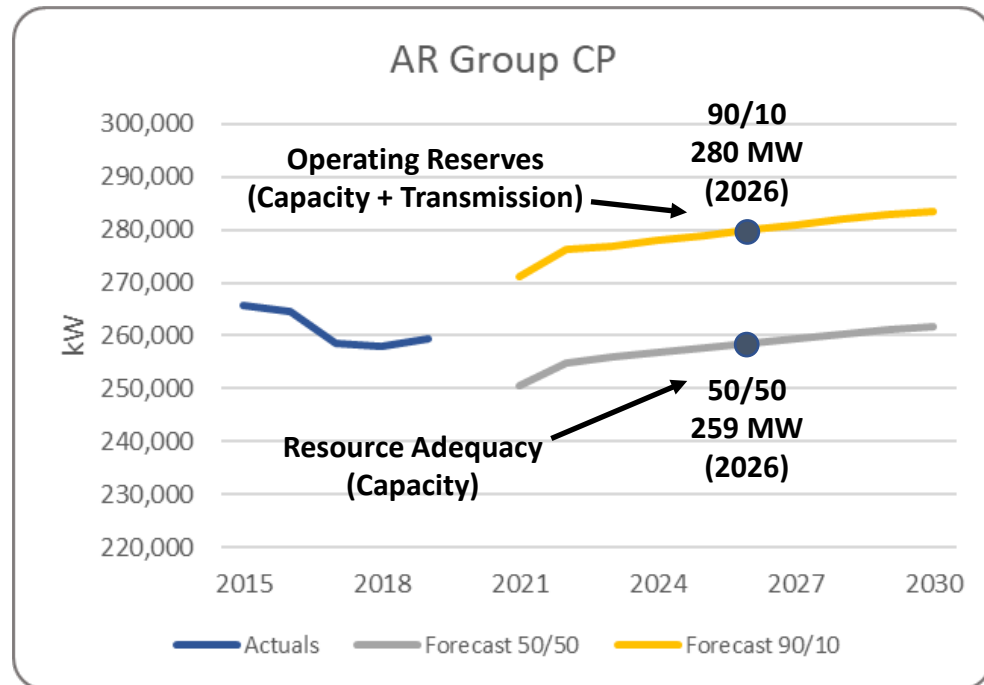


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Load Forecast(s)

- The Forecast 50/50 is used for the fuel and purchase power budget, to establish wholesale rates, for hedging, etc.
- The Forecast 50/50 budget is also used when determining the amount of steel-in-the-ground and PRA capacity to maintain the target 15% reserve margin.
- The Forecast 90/10 is used for 1-in-10 contingency planning to determine the appropriate amount of power supply and transmission to serve load under extreme conditions with an N-1 contingency.



Operating Reserve

	Firm Capacity + PRA and Reserve Margin (Planning Year 2026/2027)					90/10 Peak		Operating Reserve All Units Available			Operating Reserve PPS FO, Ashwood 20% Derate		
	50/50 Peak	Capacity	PRA	Capacity + PRA	Reserve Margin	Summer	Winter	Summer Daylight	Summer Evening	Winter	Summer Daylight	Summer Evening	Winter
Plan A	262	216	86	302	15.4%	280	246	8.4%	25.4%	1.8%	-6.1%	8.6%	-10.4%
Plan B	262	276	48	324	23.8%	280	246	29.8%	50.1%	26.2%	-6.1%	8.6%	-10.4%
Plan C	262	276	26	302	15.4%	280	246	8.4%	25.4%	1.8%	-6.1%	8.6%	-10.4%
Plan D	262	276	26	302	15.4%	280	246	13.8%	31.6%	7.9%	-6.1%	8.6%	-10.4%
Plan E	262	276	26	302	15.4%	280	246	19.1%	37.8%	14.0%	-6.1%	8.6%	-10.4%
Plan F	262	232	77	309	18.1%	280	246	19.9%	38.7%	1.8%	3.1%	19.2%	-10.4%
Plan G	262	277	77	354	35.3%	280	246	36.0%	57.2%	20.1%	3.1%	19.2%	-10.4%
Plan H	262	277	32	309	18.1%	280	246	19.9%	38.7%	1.8%	3.1%	19.2%	-10.4%
Plan I	262	277	47	324	23.9%	280	246	25.3%	44.9%	7.9%	3.1%	19.2%	-10.4%
Plan J	262	302	17	319	22.0%	280	246	23.5%	42.8%	5.9%	3.1%	19.2%	-10.4%
Plan K	262	292	47	339	29.6%	280	246	30.6%	51.1%	14.0%	3.1%	19.2%	-10.4%

Last 10-Year Extremes (Summer 2012) 285 258 (Winter 2014)

AGENDA

1. Six (6) Short-Term Decision Elements
 - a) PPS Peaking Capacity (30 to 90 MW)
 - b) Ashwood Solar Size (53.75 or 86 MW)
 - c) MISO PPA (0 to 60 MW) / MISO PRA (0 to 85 MW)
 - d) MISO Point-to-Point Transmission / Pseudo-Tie
 - i. MISO point-to-point transmission options for each plan (15 or 40 MW)
 - ii. Plan B has three PTP options (0, 15, or 40 MW)
 - iii. Pseudo-tie Ashwood 54 MW: 42 MW pseudo-tie (+/- 2 stdev)
 - iv. Pseudo-tie Ashwood 86 MW: 67 MW pseudo-tie (+/- 2 stdev)
2. Eleven (11) Short-Term Plans
 - a) Each plan is a combination of the six decision elements
3. Plan Selection: Decision Criteria
 - a) Expected Cost
 - b) Market Exposure
 - i. Low Market Opportunity
 - ii. High Market Price Risk
 - c) Operating Risk
 - i. Seasonal (Summer/Winter)
 - ii. Time of Day
4. Plan Recommendation

Ashwood Decision

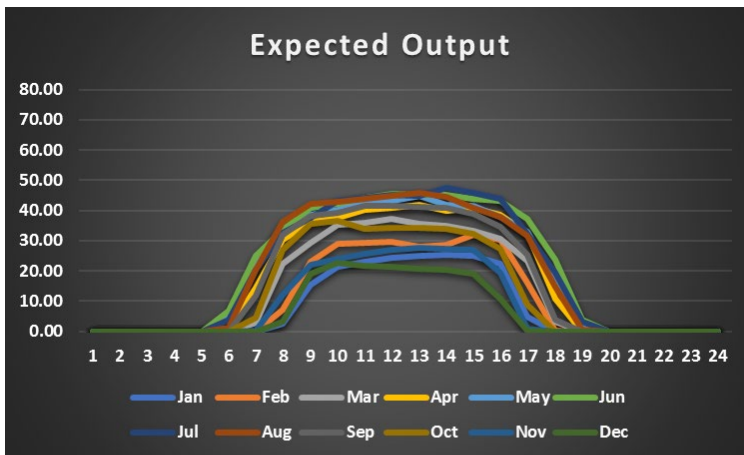
Ashwood Solar: Ashwood is scheduled to come on-line December 1, 2022. KYMEA's share is 53.75 MW.

1. OMU Ashwood Termination: Due to depancaking uncertainty, OMU terminated their 32.35 MW share of Ashwood on December 10, 2020.
2. The KYMEA Board has the unilateral right of first refusal (RoFR) to take the additional 32.25 MW to be decided in a 30-day window. Assumed RoFR window: December 10, 2020 thru January 9, 2021.
3. If KYMEA Board does not exercise its RoFR, RWE (seller) has the right to remarket the 32.25 MW.
4. If RWE is unsuccessful in remarketing "all or a portion of the 32.25 MW, then RWE will notify KYMEA between May 31, 2021 and November 30, 2021 as to the amount remarketed. KYMEA has a 30-day option after receipt of the notification to commit to purchase the unremarketed portion."
5. If KYMEA Board does not take the 32.25 MW, the Ashwood final site size will be 53.75 MW.

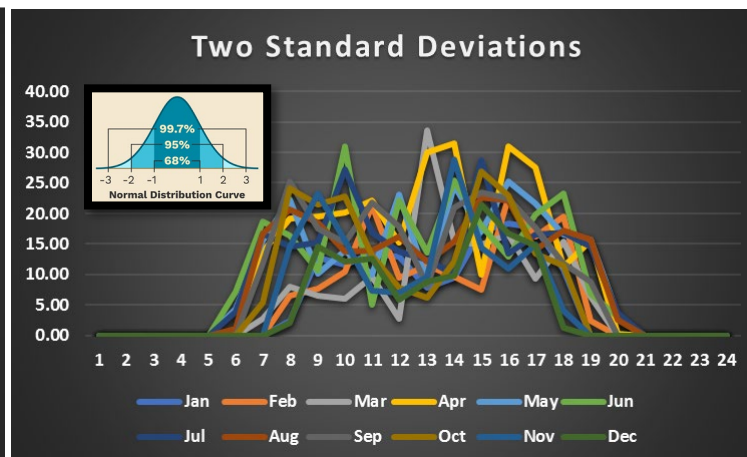
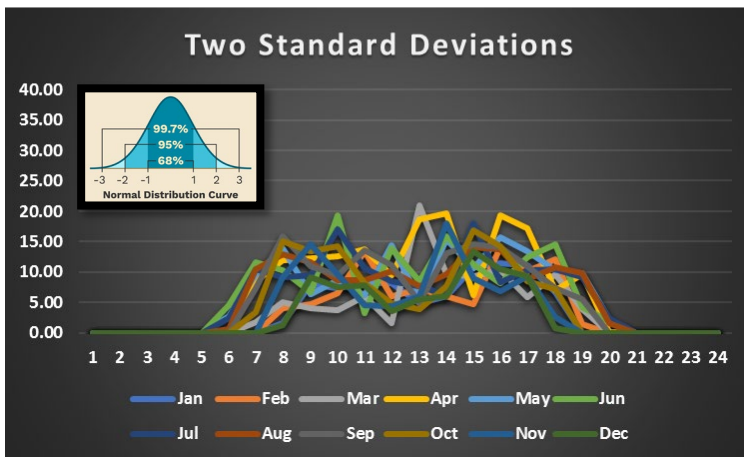
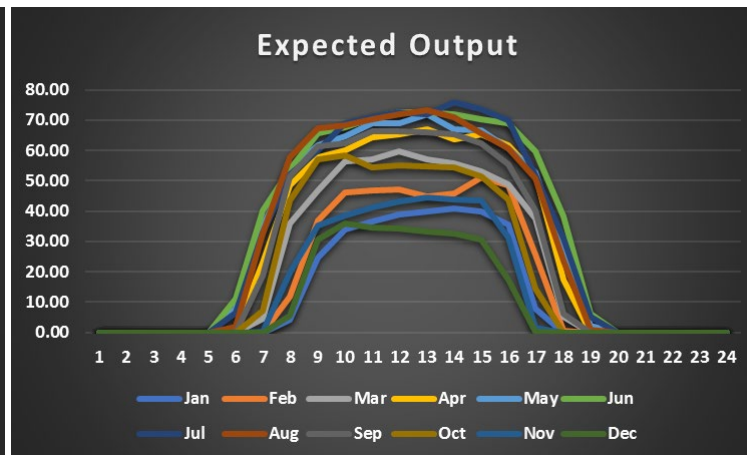
Ashwood Intermittency

Staff is currently studying the intermittency of solar generation and the agency's ability to maintain an area control error (ACE) of zero (balance of load and resources).

Ashwood at 53.75 MW



Ashwood at 86 MW



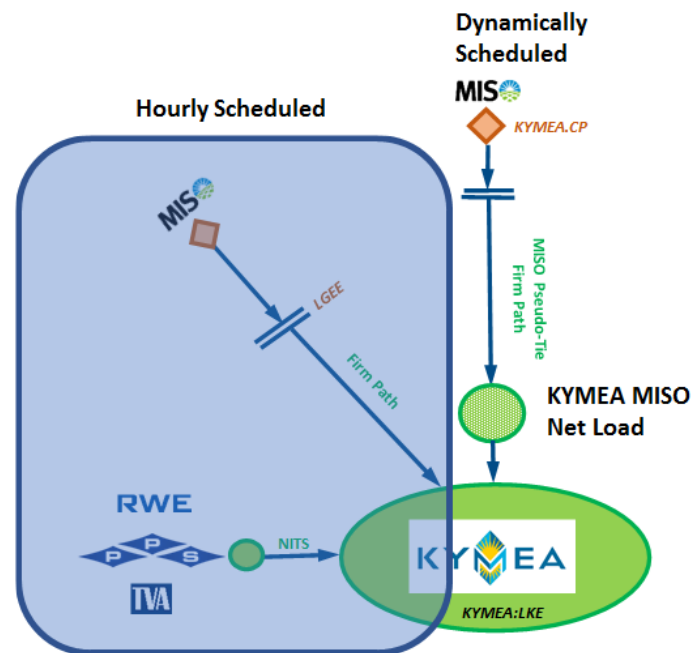
MISO Pseudo-Tie

Overview

1. The MISO pseudo-tie provides dynamic real-time scheduling which occurs ≈ 4 seconds.
2. The “KYMEA MISO net load” is dynamically scheduled.
3. KYMEA is required to provide ZRCs in the voluntary MISO PRA, or KYMEA could choose to self supply via a Fixed Resource Adequacy Plan (FRAP).

Process

- OATIWeb provides the e-tag information to the KYMEA PME server.
- The 4 second KYMEA MISO Net Load is communicated to MISO.
- The dynamic scheduling is one-way (load only), so KYMEA will schedule hourly “short” of the KYMEA load and the MISO dynamic scheduling will make-up the shortfall.
- The market price is the real-time price at a newly created KYMEA.CP Node.

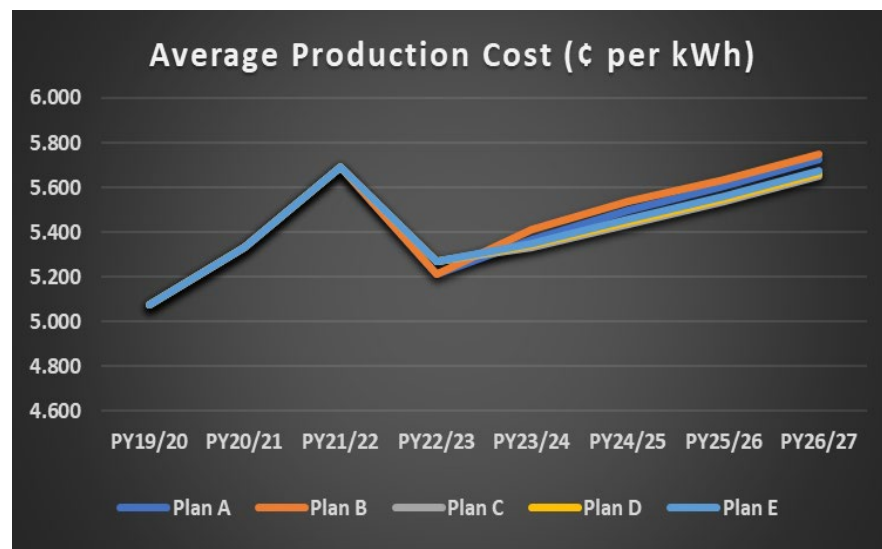
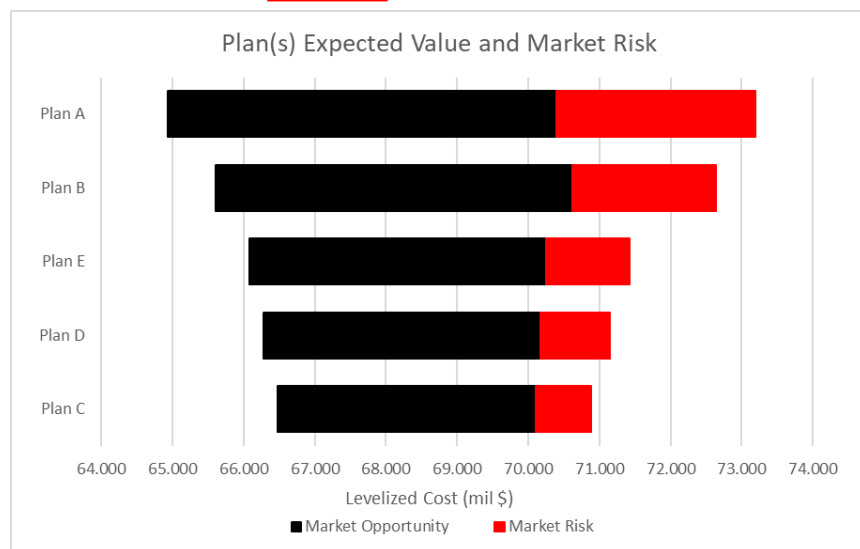


Staff Recommendation - Ashwood

1. Given KYMEA has not been able to fully investigate and analyze the ability to pseudo-tie a portion of its LG&E/KU net load to MISO, staff recommends the Board not exercise its right to the additional 32.25 MW during the ROFR period.
2. KYMEA is dependent on other entities (OATI, MISO, LG&E/KU, and TVA); plus, must address hardware, software, and communications issues to make the pseudo-tie a reality.
3. Depending RWE's remarketing efforts, the KYMEA Board will have an opportunity to take the unremarketed portion of Ashwood (0 to 32.25 MW) at some point in 2021.
4. The recommendation to wait will provide the KYMEA staff more time to continue its analysis and feasibility of the MISO pseudo-tie. Staff will provide more information to the Board as it is known.

Six 54 MW Short-Term Plans

Firm Capacity and Reserve Margin						MISO PRA, MISO Point-to-Point Transmission, Operating Reserves					Levelized Cost millions \$ (6/2019 - 5/2027)			Levelized Cost ¢ per kWh (6/2019 - 5/2027)		
	Firm Capacity	PPS Peaking	Ashwood Solar	MISO PPA	Reserve Margin	MISO PRA	Pseudo Tie	MISO PTP	Operating Margin	N-1 OP Margin	Low Market	Base Market	High Market	Low Market	Base Market	High Market
Plan A	159	30	54	0	-17.4%	86 15.3%	75 (42 min)	185 (27) 202 (40)	1.8% 12.0%	-10.4% -0.2%	64.933 66.044	70.391 71.499	73.188 74.294	5.019 5.105	5.441 5.526	5.657 5.742
Plan B	159	90	54	0	5.5%	48 23.7%	42 (42 min)	177 (0) 177 (15) 202 (40)	20.1% 26.2% 36.4%	-16.5% -10.4% -0.2%	64.913 65.603 67.275	69.945 70.626 72.295	71.969 72.641 74.308	5.017 5.070 5.200	5.406 5.459 5.588	5.562 5.614 5.743
Plan C	159	30	54	60	5.5%	26 15.3%	74 (42 min)	177 (15) 202 (40)	1.8% 12.0%	-10.4% -0.2%	66.474 68.147	70.103 71.770	70.881 72.545	5.138 5.267	5.418 5.547	5.478 5.607
Plan D	159	45	54	45	5.5%	26 15.3%	62 (42 min)	177 (15) 202 (40)	7.9% 18.1%	-10.4% -0.2%	66.280 67.953	70.173 71.840	71.154 72.819	5.123 5.252	5.424 5.553	5.499 5.628
Plan E	159	60	54	30	5.5%	26 15.3%	49 (42 min)	177 (15) 202 (40)	14.0% 24.2%	-10.4% -0.2%	66.081 67.754	70.245 71.914	71.431 73.096	5.107 5.237	5.429 5.558	5.521 5.650



PPS Peaking/PTP Decisions

1. PPS Peaking Capacity: KYMEA has the option to nominate down its take of the PPS peaking capacity from 90 MW to as low as 30 MW beginning on June 1, 2023.
 2. PPS Peaking considerations
 - a) Over reliance on the PPS Peakers poses a risk of too much exposure to a single generating station.
 - b) Under reliance on the PPS Peakers poses a risk of too little generation inside the LG&E/KU control area where the KYMEA load resides.
-
3. Additional MISO Point-to-Point (PTP) transmission (15 or 40 MW)
 4. MISO PTP considerations
 - a) Too little MISO PTP produces an over reliance on the PPS Peakers where the runtime hours operationally (staffing and unit stress) and environmentally (air permits limits) become a concern.
 - b) Further, too little MISO PTP could hinder KYMEA's ability to serve load under extreme weather conditions.
 - c) Conversely, too much MISO PTP is an expensive insurance policy.

Operating Reserve

15 MW MISO PTP

	Firm Capacity + PRA and Reserve Margin (Planning Year 2026/2027)					90/10 Peak		Operating Reserve All Units Available			Operating Reserve PPS FO, Ashwood 20% Derate		
	50/50 Peak	Capacity	PRA	Capacity + PRA	Reserve Margin	Summer	Winter	Summer Daylight	Summer Evening	Winter	Summer Daylight	Summer Evening	Winter
Plan A	262	216	86	302	15.4%	280	246	8.4%	25.4%	1.8%	-6.1%	8.6%	-10.4%
Plan B	262	276	48	324	23.8%	280	246	29.8%	50.1%	26.2%	-6.1%	8.6%	-10.4%
Plan C	262	276	26	302	15.4%	280	246	8.4%	25.4%	1.8%	-6.1%	8.6%	-10.4%
Plan D	262	276	26	302	15.4%	280	246	13.8%	31.6%	7.9%	-6.1%	8.6%	-10.4%
Plan E	262	276	26	302	15.4%	280	246	19.1%	37.8%	14.0%	-6.1%	8.6%	-10.4%

40 MW MISO PTP

	Firm Capacity + PRA and Reserve Margin (Planning Year 2026/2027)					90/10 Peak		Operating Reserve All Units Available			Operating Reserve PPS FO, Ashwood 20% Derate		
	50/50 Peak	Capacity	PRA	Capacity + PRA	Reserve Margin	Summer	Winter	Summer Daylight	Summer Evening	Winter	Summer Daylight	Summer Evening	Winter
Plan A	262	216	86	302	15.4%	280	246	17.3%	35.7%	12.0%	2.8%	18.9%	-0.2%
Plan B	262	276	48	324	23.8%	280	246	38.7%	60.4%	36.4%	2.8%	18.9%	-0.2%
Plan C	262	276	26	302	15.4%	280	246	17.3%	35.7%	12.0%	2.8%	18.9%	-0.2%
Plan D	262	276	26	302	15.4%	280	246	22.7%	41.9%	18.1%	2.8%	18.9%	-0.2%
Plan E	262	276	26	302	15.4%	280	246	28.0%	48.1%	24.2%	2.8%	18.9%	-0.2%

Staff Recommendation – Plan E

1. To balance cost and risk, staff recommends the Board reduce the PPS peaking capacity down to 60 MW coupled with an additional 15 MW of MISO PTP transmission. **PLAN E**
2. Need for additional MISO PTP in the future
 - a) Staff will continually assess the availability of the PPS peaking units and natural gas fuel supply to determine if addition MISO PTP is necessary.
 - b) Further, staff will assess the need for additional MISO PTP when the KYMEA 10-year load forecast is updated annually.

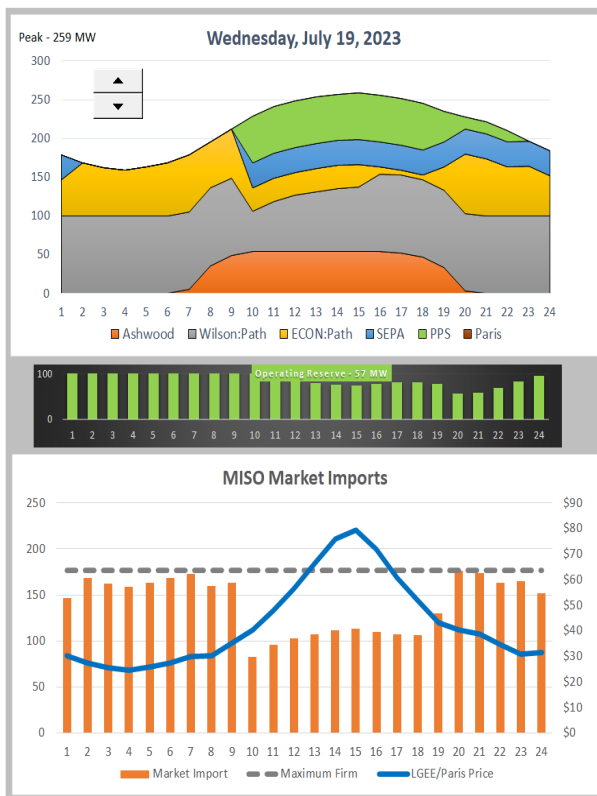
	Firm Capacity and Reserve Margin					MISO PRA, MISO Point-to-Point Transmission, Operating Reserves					Levelized Cost millions \$ (6/2019 - 5/2027)			Levelized Cost ¢ per kWh (6/2019 - 5/2027)		
	Firm Capacity	PPS Peaking	Ashwood Solar	MISO PPA	Reserve Margin	MISO PRA	Pseudo Tie	MISO PTP	Operating Margin	N-1 OP Margin	Low Market	Base Market	High Market	Low Market	Base Market	High Market
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Plan E	159	60	54	30	5.5%	26 15.3%	49 (42 min)	177 (15) 202 (40)	14.0% 24.2%	-10.4% -0.2%	66.081 67.754	70.245 71.914	71.431 73.096	5.107 5.237	5.429 5.558	5.521 5.650

Plan E (PPS 60, Ashwood 54, PTP 15) 23/24 Summer Operating Reserves

Operating Reserves: 57 MW

50/50 Peak Summer Day

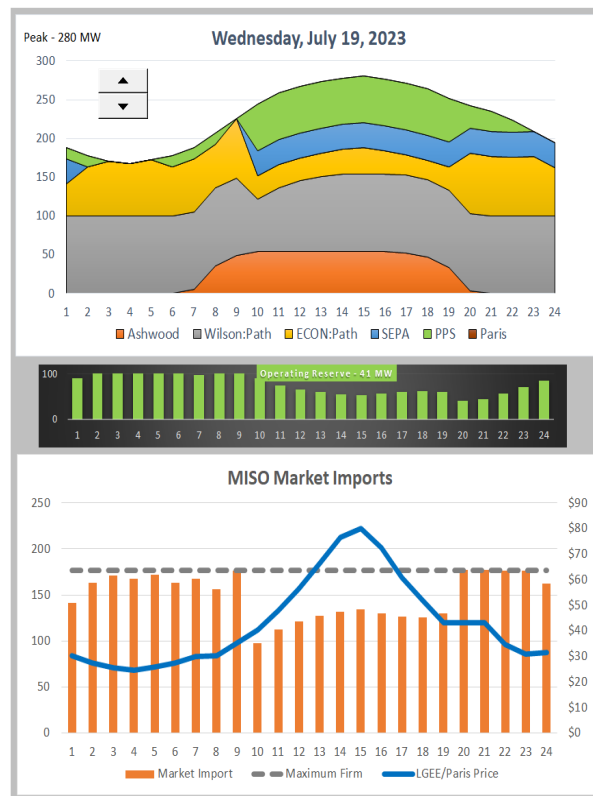
All Units Available



Operating Reserves: 41 MW

90/10 Peak Summer Day

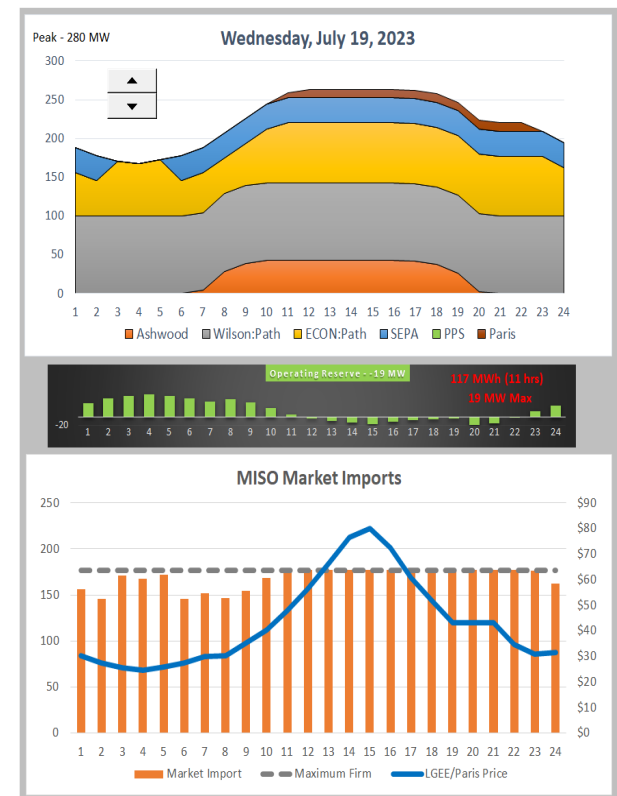
All Units Available



Operating Reserves: -19 MW

90/10 Peak N-1 Contingency

PPS FO, Ashwood 20% Derate



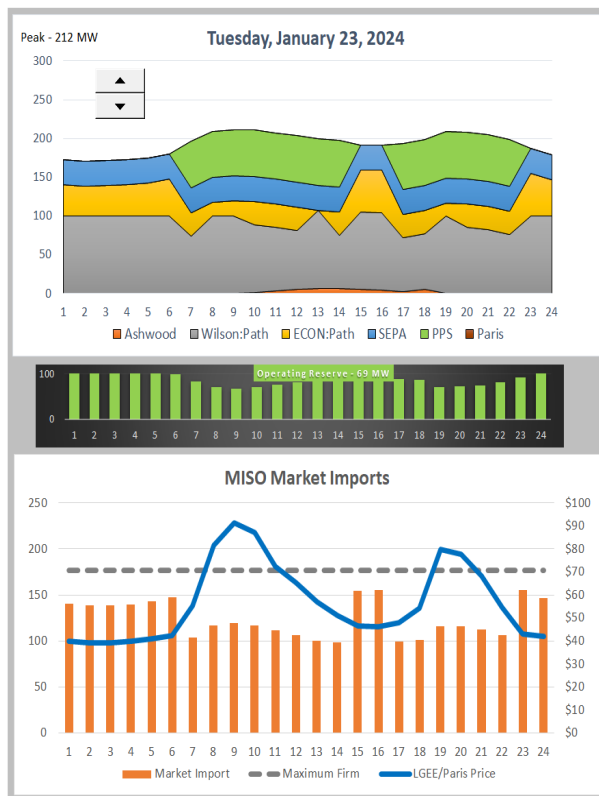
Plan E (PPS 60, Ashwood 54, PTP 15)

23/24 Winter Operating Reserves

Operating Reserves: 69 MW

50/50 Peak Winter Day

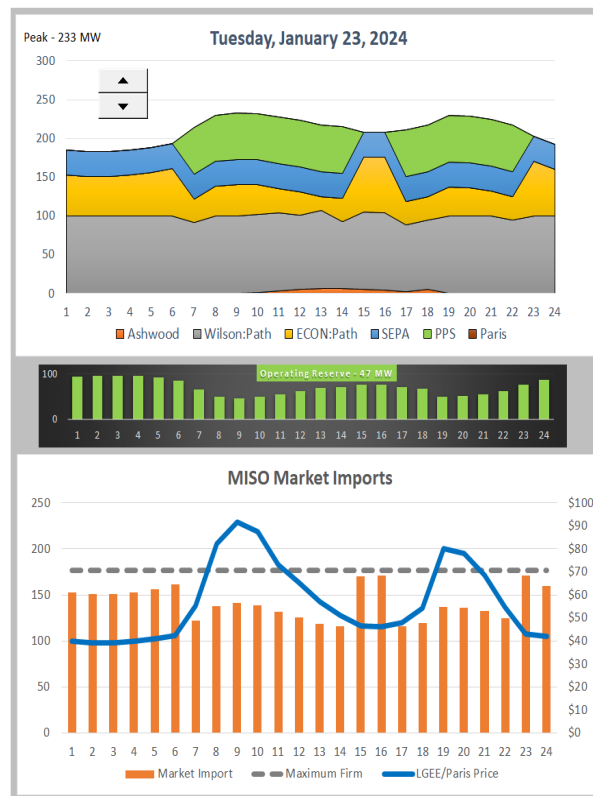
All Units Available



Operating Reserves: 47 MW

90/10 Peak Winter Day

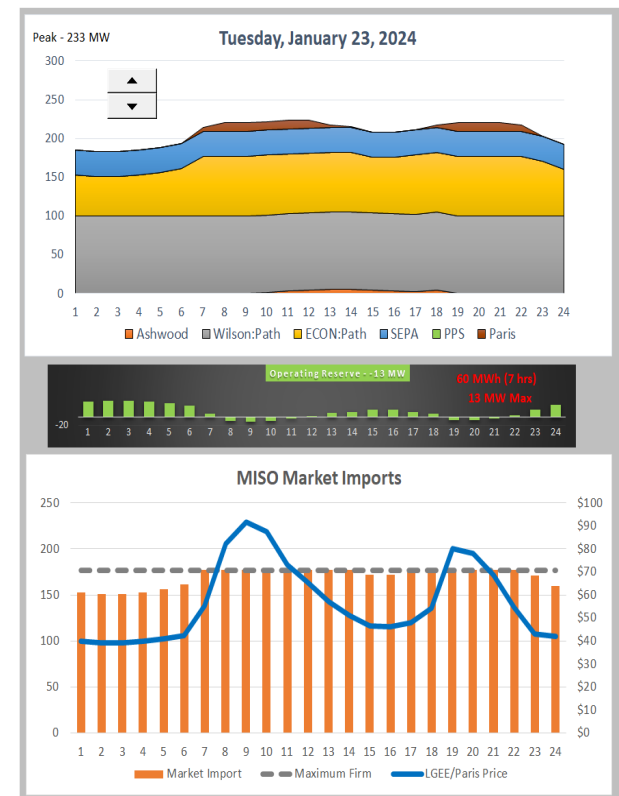
All Units Available



Operating Reserves: -13 MW

90/10 Peak N-1 Contingency

PPS FO, Ashwood 20% Derate

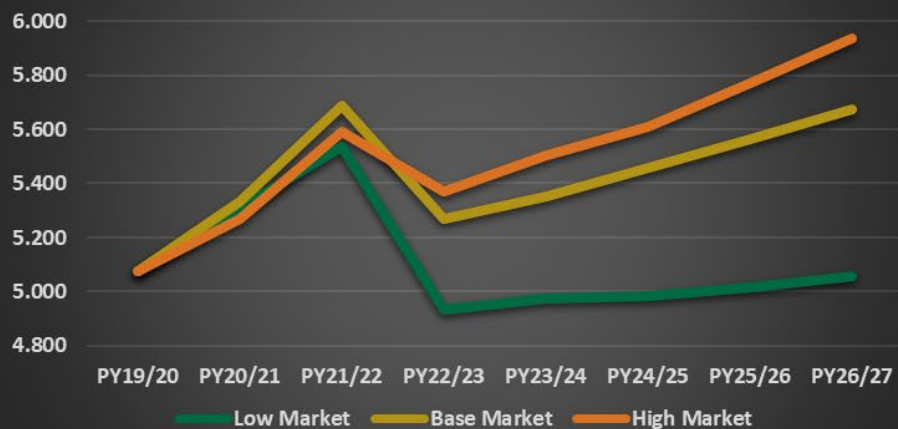


Addressing Market Risk

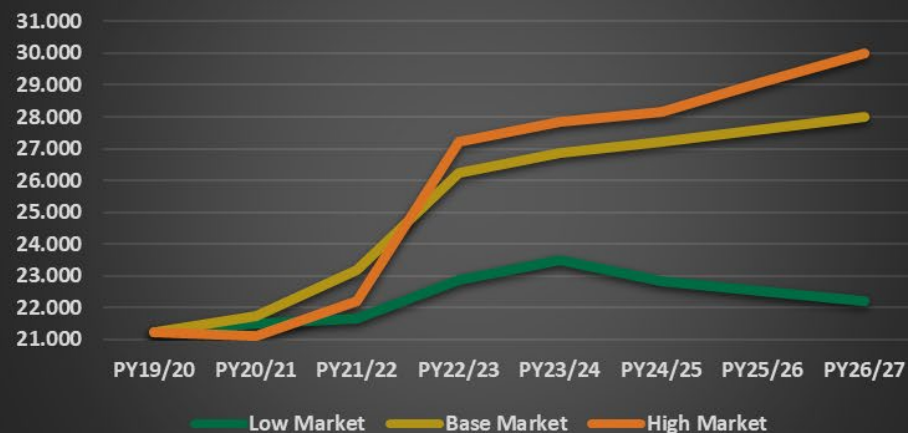
1. Plan E includes 30 MW of an hourly dispatchable MISO PPA which provides a hedge against some of the market price exposure and volatility. The 30 MW PPA provides a portion of the capacity required for the MISO pseudo-tie.
2. The rest of the market exposure will be a balance of unhedged positions for capacity and energy combined with standard block products (e.g. 5x16 and 7x24).
3. If the KYMEA Board determines they would like to exercise their right to any available Ashwood Solar after the remarketing period, the addition Ashwood will provide a further hedge against high market prices, a possible future carbon tax, as well as provide additional capacity and operating reserves inside the LG&E/KU control area. In this instance, the KYMEA Board pivots from Plan E to Plan K.

Plan E Market Exposure

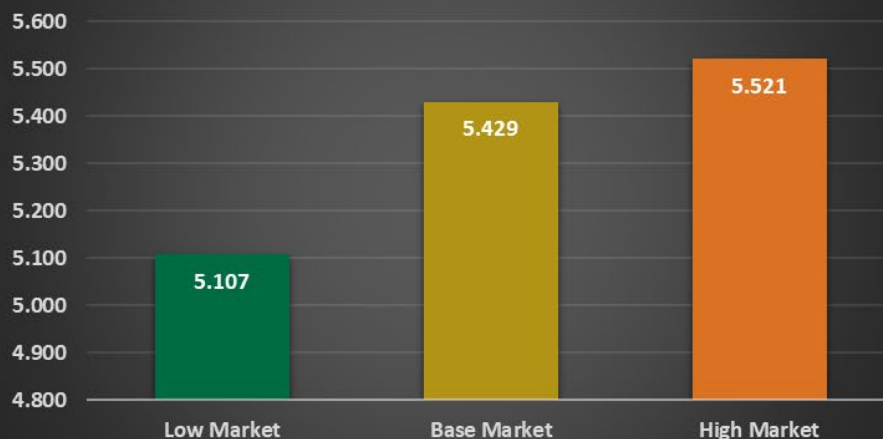
Average Production Cost (¢ per kWh)



Native Load Energy Cost (\$/MWh)



PY22/27 Levelized Ave Cost (¢ per kWh)



Production Fixed Cost (\$/kW-MO)



1. KYMEA Board Discussion
2. The KYMEA Board will vote on which Plan they would like the KYMEA staff to implement at a special meeting to be held on December 29th at 11:00 am eastern time.

Action Items

G. Action Items

G.1 MISO Dispute





KENTUCKY MUNICIPAL ENERGY AGENCY



MISO Charge Dispute

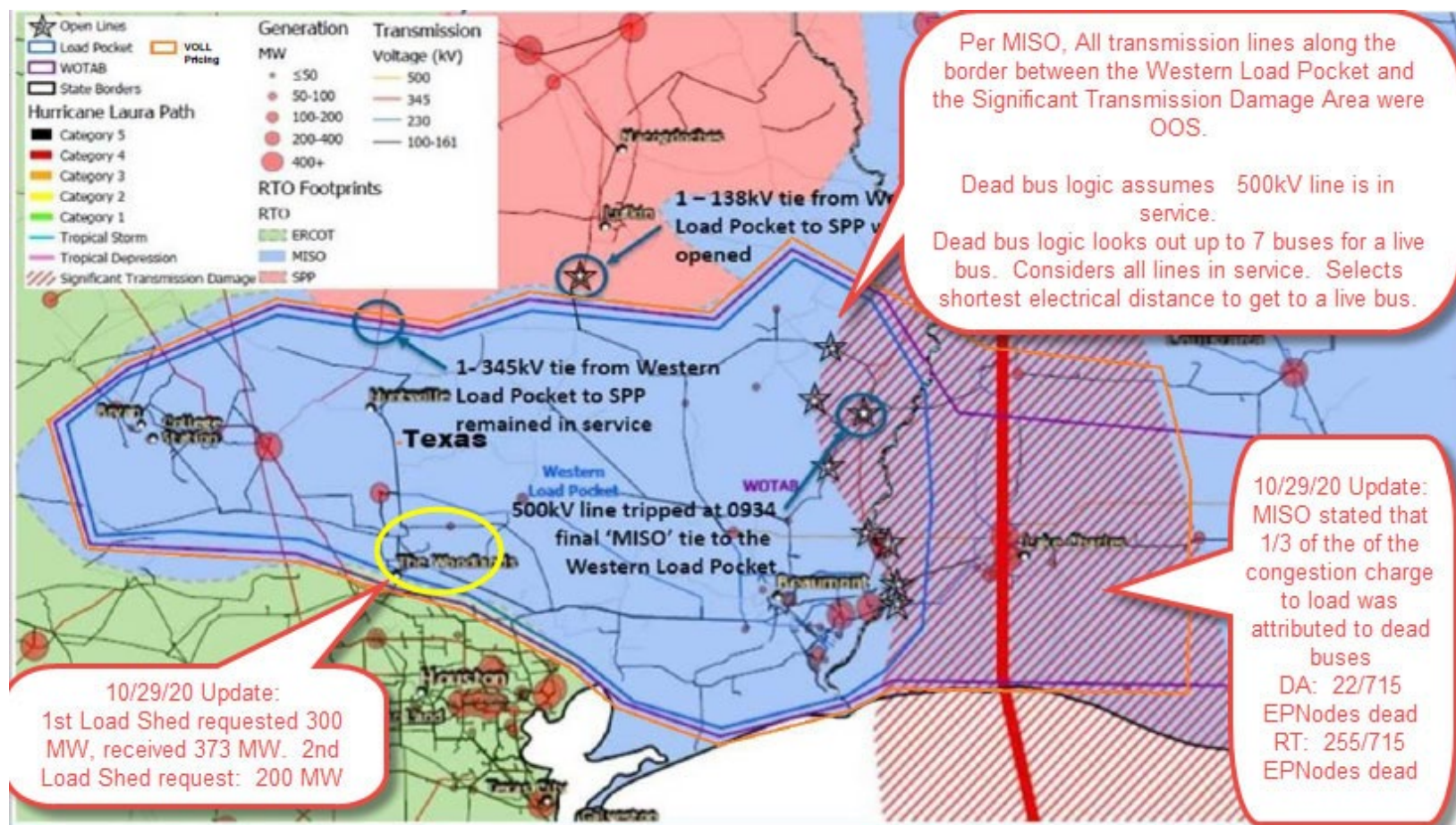
December 16, 2020

Heather Overby

MISO Charge Dispute Background

- Hurricane Laura affected MISO's southern region on 8/27/2020.
- Over 120 transmission lines were forced out of service, effectively cutting off the Western Load Pocket from the rest of the MISO system.
- MISO stated that they operated the area as an energized island from hours ending 12-23 until a 500 kV line was returned to service, eliminating the island condition.
- MISO implemented an after the fact manual settlement based on Schedule 40.2.20.b (VOLL pricing) to a broad area that included many physically disconnected buses due to the catastrophic damage. This implementation of VOLL led to \$85M of Revenue Inadequacy uplifted to Market Participants. KYMEA portion is \$70k.

MISO Charge Dispute Background



MISO Charge Dispute Background

- The premise of VOLL is to incent market behavior under capacity shortage circumstances. Implementation of VOLL pricing after the fact could have no impact on system reliability in real time.
- As the capacity shortfall was due to catastrophic events, VOLL pricing is not appropriate. We believe MISO applied its tariff inappropriately, resulting in settlements that do not align with cost causation and allocation principles.
- MISO should have interpreted this event as a Restoration Event and Schedule 52 should have been used.

MISO Charge Dispute Resolution

- KYMEA joined a group of other MISO participants including Ameren and Xcel Energy to draft common language in dispute filing.
- KYMEA submitted a MISO Market Settlement Statement dispute on 12/14/20. Dispute is expected to be promptly rejected.
- MISO's Alternative Dispute Resolution (ADR) mechanism is the next step.
- Group ADR process deemed most efficient and could yield best results.
- KYMEA portion of group ADR legal fees estimated not to exceed \$14k (20% of damages).

Action Requested:

KYMEA Board motion approving legal costs relating to joint MISO ADR process to dispute Hurricane Laura related MISO market settlement charges not to exceed 20% of damages.

Public Comments

This is an opportunity for members of the public to provide input to the KYMEA Board and is limited to 5 minutes per speaker.



Upcoming Meetings and Other Business

A Special Video Meeting will be held on December 29th at 11 AM est.

The next Regular Meeting is Thursday, January 28th at 10 am at the KYMEA offices

The KYMEA Board of Directors shall hold its regular meetings on the fourth Thursday of each month, except for the months of November and December when the regular meeting shall be held on the third Wednesday. The regular meetings shall convene and commence at 10:00 am Eastern time on said dates. The regular meetings shall be held at the KYMEA Board Room, 1700 Eastpoint Pkwy, Suite 220, Louisville, Kentucky.



Closed Session

J. Closed Session

J.1 None Expected



Actions Related to Closed Session

K. Actions Related to Closed Session

None Expected



Adjournment

