



**AGENDA
CITY OF HARRISONVILLE
BOARD OF ALDERMEN
SPECIAL MEETING
VIA ZOOM
MARCH 11, 2021
6:00 PM**

Due to the current state of the COVID-19 virus, Harrisonville Board of Aldermen meetings are being conducted through a remote, online service. To attend this meeting, please dial 1-312-626-6799. The meeting ID is: 852-5438-0622.

- 1. Call to Order**
- 2. Present**
 - A. Roll Call**
- 3. Discussion Items**
 - A. February Electric Invoice discussion**

Posted on this City Hall bulletin board on this 10th day of March, 2021

Brad Ratliff, City Administrator



TO: Board of Aldermen
FROM: Daniel Barnett,
DATE: March 9, 2021
SUBJECT: February Electric Invoice discussion

Type of Item: *Discussion*

Staff will be emailing additional information and options to the BOA.

A. Discussion Item (ID # 3811)

February Electric Invoice discussion

Attachments:

2021 Winter Storm Recap MoPEP (PDF)

March 5, 2021 MoPEP Invoice Memo (DOCX)

MoPEP Feb03052021_Part12(PDF)



MPUA

Missouri Public Utility Alliance

improving local quality of life through hometown utilities

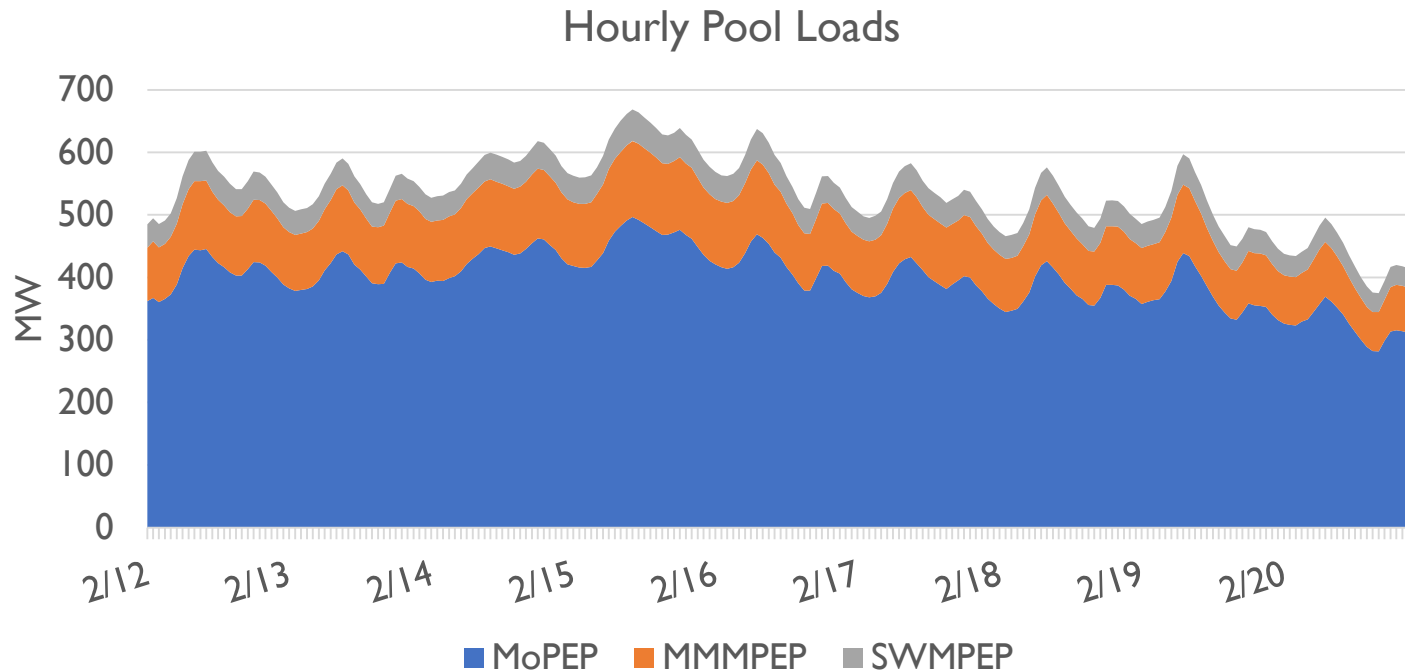
2021 Winter Storm Recap

High Level Overview

- Extreme cold temperatures caused the demand for electricity and natural gas to exceed supply
 - Natural gas was needed for both electric generation and heating loads
- These market pressures caused a steep increase in the price for natural gas and electricity
 - Natural gas prices went from ~\$3/dth to ~\$1,000/dth
 - Electric prices went from ~\$20/MW to over \$4,000/MWh
- In the electric markets, the marginal energy cost is the same across the footprint for all generation and load. Generation online at the time of high prices acts as a hedge against the prices paid for load.

Increased Demand

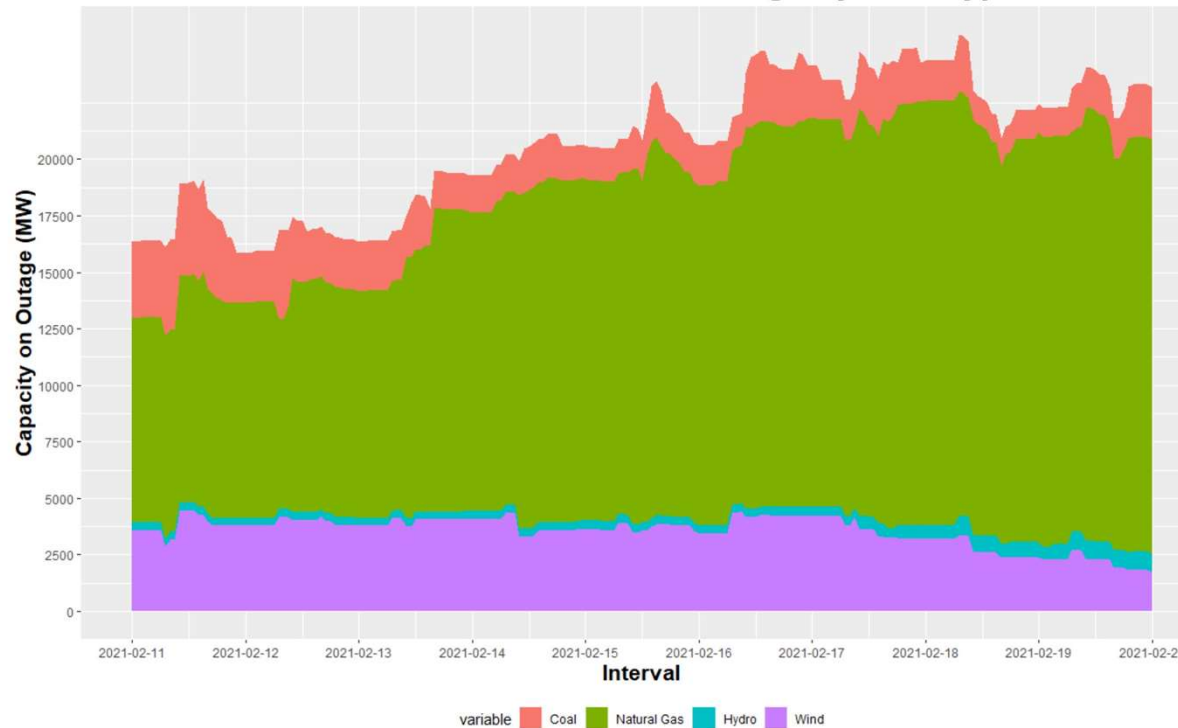
On 2/15 the Southwest Power Pool hit a new all time winter peak demand; MoPEP and SVMPEP also hit new winter peaks and MMMPEP surpassed their 2020 summer peak



Capacity on Outage

On the supply side, the cold temperatures caused an increase in generation outages and derates as units were not weatherized to those temperatures and fuel supply was an issue for natural gas generation. The graph below shows the amount of capacity on outage growing as the cold weather spread across the SPP footprint.

MWs of SPP Resources on Outage By Fuel Type



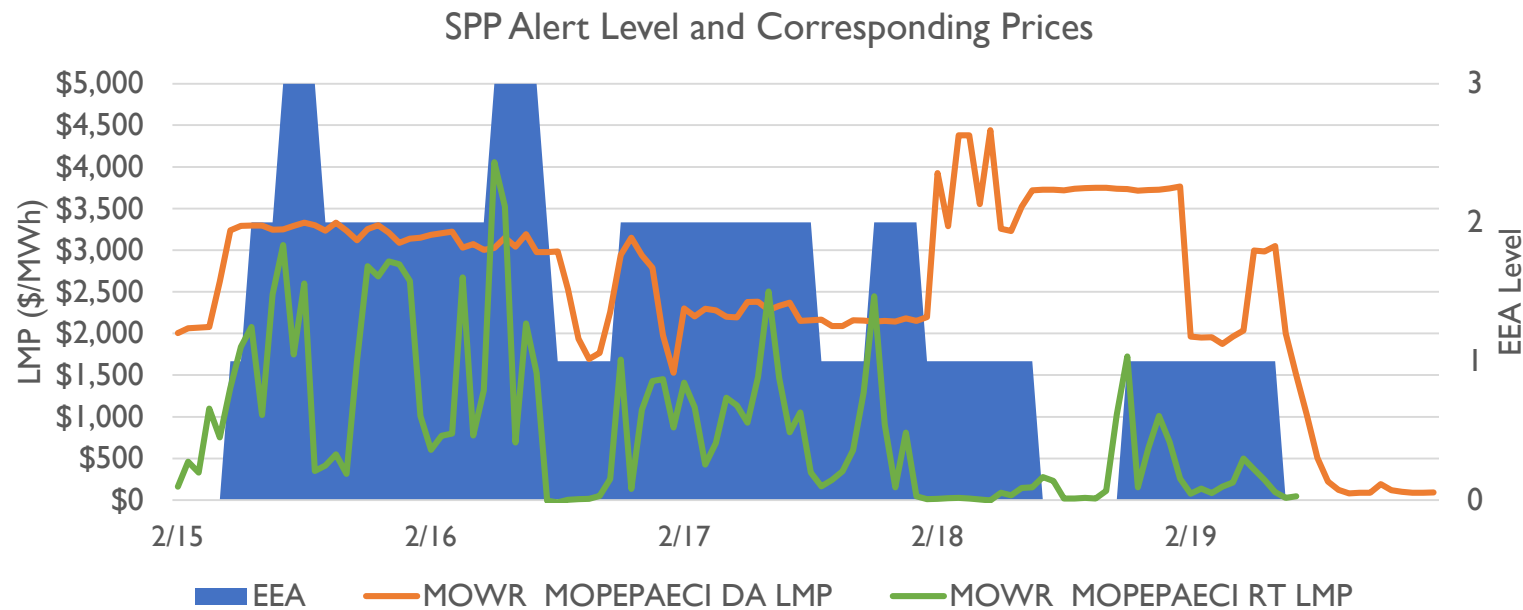
"Capacity on Outage (MW) Stacked Plot"



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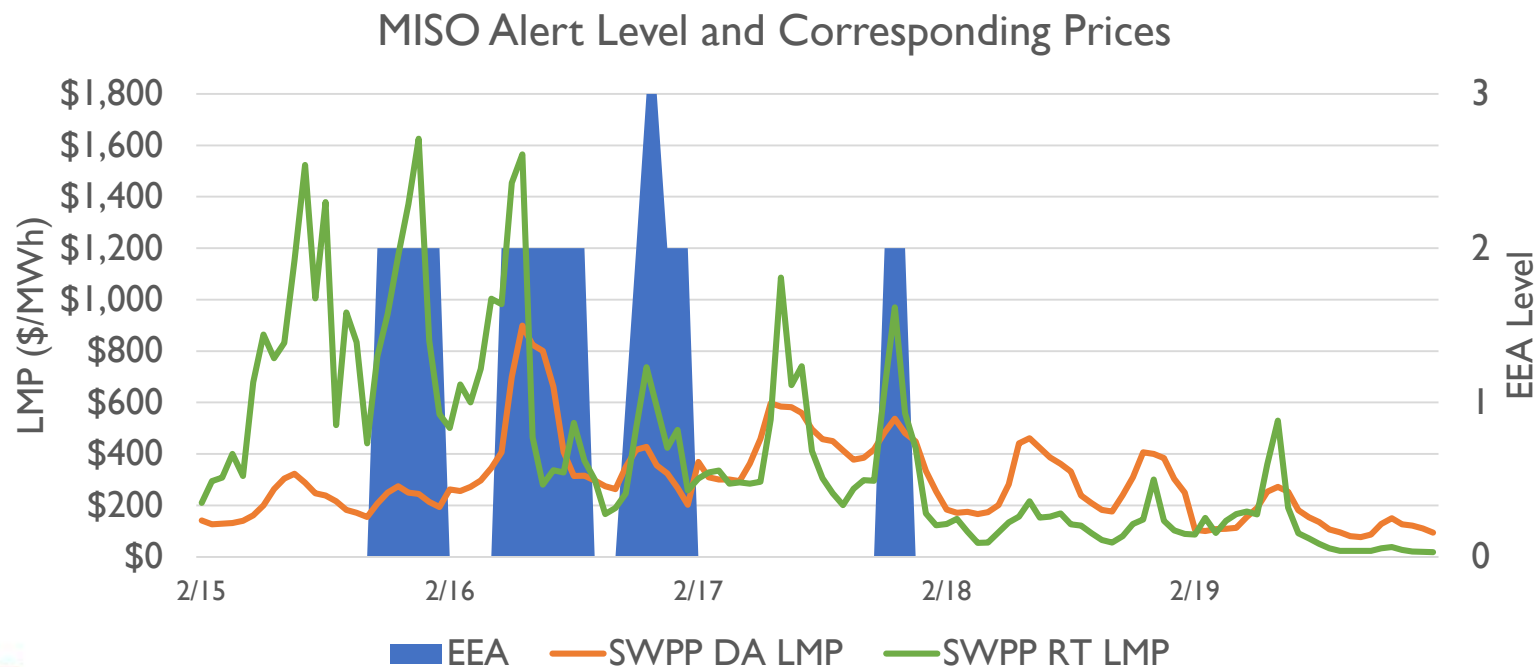
SPP Pricing and Emergency Timeline

The increased demand and shortened supply stack caused the RTOs throughout the region to have trouble maintaining adequate reserves, resulting in a series of Emergency Alerts. These alert levels range from 0-3, with 3 indicating RTO directed load shed. You can see how SPP struggled to maintain reserves during the event and the resulting market prices (LMP) for the Day Ahead (DA) and Real Time (RT) markets at a representative pricing node in Missouri.



MISO Pricing and Emergency Timeline

MISO also had trouble meeting its reserves, with the South region having the most severe alerts. This graph represents the highest alert level throughout the footprint and the market pricing at the seam between MISO and SPP. The market prices in MISO did not reach the same levels as SPP but were still elevated.

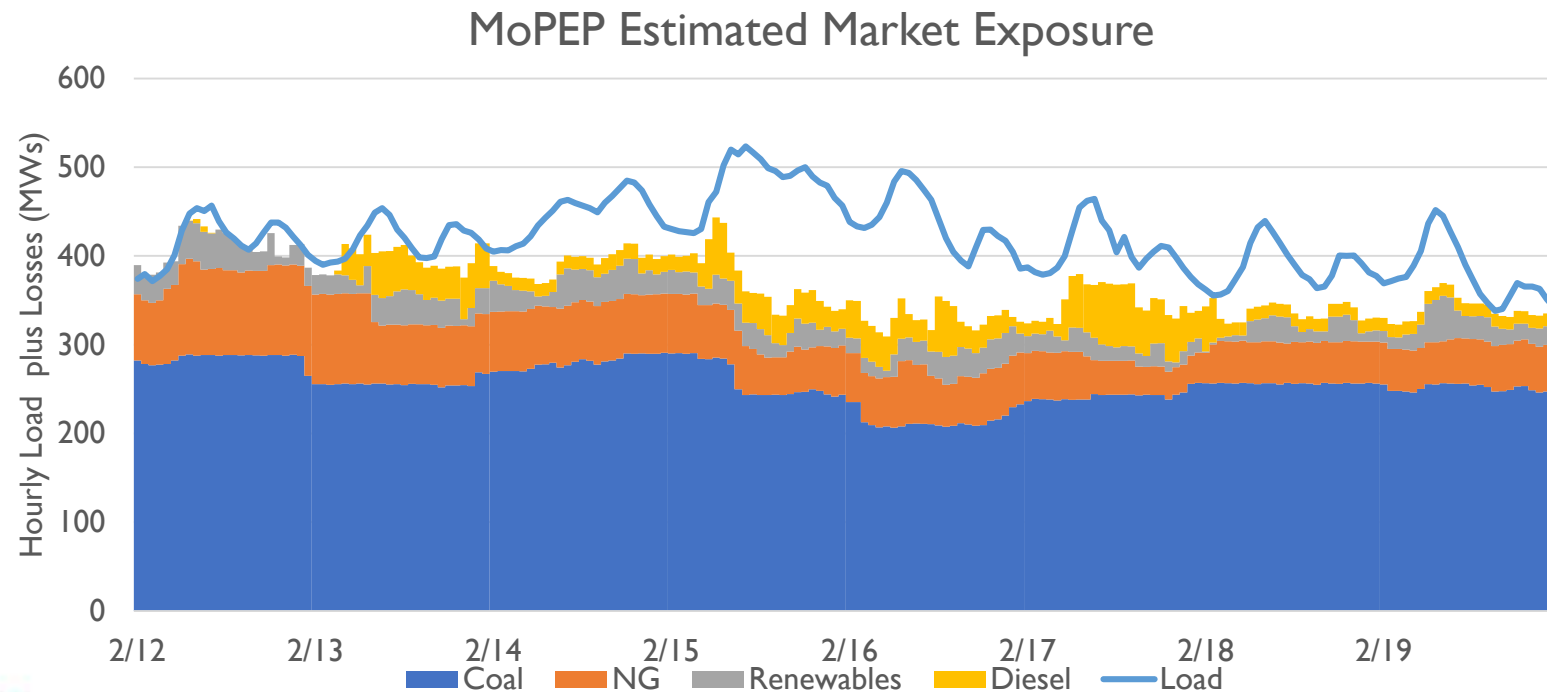


Impact on Pool Members

- The weather event impacted each Pool differently depending on their portfolio's exposure to index/spot natural gas prices and the amount of generation they had online to act as a hedge against market prices
- We are still gathering invoices from suppliers and expect significant RTO resettlements, so the impacts shown for each pool are our best estimates given current data

MoPEP Estimated Market Exposure

MoPEP's diverse portfolio served as a good hedge against market prices. The difference between the load curve and top of the supply stack is the net market exposure each hour. MoPEP deployed its diesel peaking capacity to help mitigate costs.



MoPEP Estimated Cost Impacts

- In the RTO markets you buy all the MWhs needed to serve load hourly, then sell all dispatched MWhs from generation assets
 - Estimated cost for load 2/12 - 2/19: \$145 million
 - Prior 8-day period: \$3.2 million
 - Estimated savings from assets 2/12 - 2/19: \$118 million
- Overall bill impact, roughly 3x normal all-in cost (total cost normalized by MWhs used)

Normal Operations

- As quickly as the event hit, it dissipated, and the natural gas and electric markets were back to normal prices
- FERC has launched an investigation into the event, as have both MISO and SPP
- We expect RTO resettlements of the event to start flowing through in late April, but it is likely we'll see them persist for several years



Questions?

MEMORANDUM

TO: MoPEP Members

FROM: Rebecca Atkins, Vice President, Market Operations & Analysis

DATE: March 5, 2021

RE: March Invoice Overview

The polar vortex event we experienced in February had a significant impact on the electric and natural gas markets. During the event the price of natural gas increased from around \$3/dth to around \$1,000/dth and electric market prices increased from a typical price around \$20-\$30/MWh to over \$4,000/MWh. MoPEP's diversified generation portfolio provided a substantial hedge against these record setting prices; however, the group did experience some market exposure due to high demand and unit derates and outages.

February Estimated Costs:

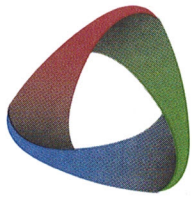
The estimated February costs on the March 5, 2021 invoice reflect our best estimate of the actual monthly costs. MoPEP all-in costs for February (not including local transmission) are currently estimated to be around \$182/MWh, around three times the normal cost. Per usual, we will be truing up this estimate next month when we have received all our supplier invoices.

Estimated February Relief:

On March 1, 2021, the MoPEP committee met and approved a resolution allowing the Pool to access up to \$21 million from the revolving line of credit to help spread the impact of these prices to members. MoPEP will also be using a portion of its working capital and reserves to pay February supplier invoices. At future MoPEP meetings the Pool will discuss the appropriate length of term for payback on both the line of credit and restoring reserves. For this invoice, the relief is being provided as an offsetting line item on member invoices titled "Estimated February Relief." Each city's share is based on their February energy usage. Because there will be interest costs on any borrowed money, if a member wishes to use less than their allotted relief they can choose to do so, and this will be tracked separately. Please contact Becky Class, bclass@mpua.org, if you wish to pay more than the bottom line of your invoice.

If your city ran local generation in February, just a reminder that these energy credits will show up on next month's invoice.

Attachment: March 5, 2021 MoPEP Invoice Memo (February Electric Invoice discussion)



MPUA

Missouri Public Utility Alliance

MoPEP 1 Invoice

18183

Bill to:

Date: 03/05/21
 Due Date: 03/18/21
 Service for: February 2021
 Customer # 1031

City of Harrisonville
 P.O. Box 367
 Harrisonville, Missouri 64701

Peak: 19.8
 Day: 15
 Hour: 11

Please make checks payable to: Missouri Joint Municipal Electric Utility Commission

DESCRIPTION	RATE	QUANTITY	AMOUNT
Demand Charges	\$/MW	MWs	\$
February Demand Charge	\$9,300.000000	23.500	\$218,550.00
MoPEP Demand Credit	\$0.000000	0.000	\$0.00
Other Demand Charges: (Attached)			\$302.89
Total Demand Charges			\$218,852.89
Energy Charges	\$/MWh	MWhs	\$
February Energy Charge: Estimated	\$164.400000	8,821.999	\$1,450,336.64
February Losses Charge: Estimated	\$138.280000	441.100	\$60,995.30
January Energy Charge: Actual	\$41.033890	8,412.595	\$345,201.49
January Energy Charge: Paid by City	-\$43.560000	8,412.595	-\$366,452.63
January Losses Charge: Actual	\$14.651460	420.630	\$6,162.84
January Losses Charge: Paid by City	-\$16.880000	420.630	-\$7,100.23
MoPEP Energy Credit	\$0.000000	0.000	\$0.00
Other Energy Charges: (Attached)			-\$27,440.71
Total Energy Charges			\$1,461,702.70
Local Transmission Charges	\$/MWh	MWhs	\$
January Network Transmission			\$67,060.34
Total Transmission Charges			\$67,060.34
Estimated February Relief:			-\$952,280.78
TOTAL \$			\$795,335.15

For wire transfers:

Commerce Bank, NA
 Columbia, Missouri
 ABA # 101000019
 Account # 400150525

1808 I-70 Dr. SW
 Columbia, MO 65203
 Phone: 573-445-3279
 Fax: 573-445-0680
 www.mpua.org

Serving Municipal Utilities

Missouri Association of Municipal Utilities
 Missouri Joint Municipal Electric Utility Commission
 Municipal Gas Commission of Missouri

Harrisonville

Other February Demand Charges:	\$/MW	MWs	\$
Feb-21	\$0.000000	0.000	\$0.00
Feb-21	\$0.000000	0.000	\$0.00
Feb-21	\$0.000000	0.000	\$0.00
Feb-21	\$0.000000	0.000	\$0.00
Feb-21	\$0.000000	0.000	\$0.00
Hydro Credit Adjustment	\$0.000000	0.000	\$302.89
Total:			\$302.89

Other February Energy Charges:	\$/MWh	MWhs	\$
Feb-21	\$0.000000	0.000	\$0.00
Feb-21	\$0.000000	0.000	\$0.00
Feb-21	\$0.000000	0.000	\$0.00
Feb-21	\$0.000000	0.000	\$0.00
Feb-21	\$0.000000	0.000	\$0.00
Feb BHE Marshall Wind Recs - Wal-Mart*	\$1.000000	129.948	\$129.95
Total:			\$129.95

*Please send 2020 monthly billing information (peaks & energy) for this customer.

True-up Demand Charges:	\$/MW	MWs	\$
Feb-21	\$0.000000	0.000	\$0.00
Feb-21	\$0.000000	0.000	\$0.00
Feb-21	\$0.000000	0.000	\$0.00
Feb-21	\$0.000000	0.000	\$0.00
Feb-21	\$0.000000	0.000	\$0.00
Feb-21	\$0.000000	0.000	\$0.00
Feb-21	\$0.000000	0.000	\$0.00
Feb-21	\$0.000000	0.000	\$0.00
Feb-21	\$0.000000	0.000	\$0.00
Total:			\$0.00

True-up Energy Charges:	\$/MWh	MWhs	\$
Dec '20 Energy TU	-\$3.723966	8,066.686	-\$30,040.06
Dec '20 Losses TU	-\$0.092221	403.334	-\$37.20
Feb-21	\$0.000000	0.000	\$0.00
Feb-21	\$0.000000	0.000	\$0.00
Feb-21	\$0.000000	0.000	\$0.00
Feb-21	\$0.000000	0.000	\$0.00
Feb-21	\$0.000000	0.000	\$0.00
Feb-21	\$0.000000	0.000	\$0.00
Feb-21	\$0.000000	0.000	\$0.00
Jan '21 Solar RECs	\$40.000000	62.665	\$2,506.60
Total:			-\$27,570.66

All-In Cost Calculation	February Estimate	January True Up	YTD thru December
Pool's All-in Cost for Energy & Capacity (\$/MWhr)	\$ 182.644900	\$ 59.710000	\$ 67.906575
Harrisonville's All-in Cost for Energy & Capacity (\$/MWhr)	\$ 186.749806 *	\$ 64.519398 *	\$ 70.392576
Adjustments			
Harrisonville's Credits for Local Energy & Capacity (\$/MWhr)	\$ -	\$ -	
Harrisonville's Local Transmission Cost (\$/MWhr)	\$ -	\$ 7.591830	\$ 7.373994
Harrisonville's Total All-In Cost (\$/MWhr)	\$ 186.749806	\$ 72.111228	\$ 77.766570

*Does NOT include local transmission or true ups beyond 30 days

MoPEP Avoided Energy Rate for January (\$/MWhr):	\$12.804410
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Attachment: MoPEP Feb03052021_Part12 (February Electric Invoice discussion)