

# Market Monitor Report

MC Webinar  
March 23, 2020

IMM



Monitoring Analytics

# October 1, 2019

- **October 1, Hours 14 to 16**
  - **Low day-ahead forecast**
  - **Inadequate generator response**
  - **Spinning event deployment**
    - High cost because nonsynchronized reserves also short
    - Deployment caused violation of multiple constraints
  - **Violation of the power balance constraint**
- **October 1, Hours 16 to 17**
  - **Solved shortage cases not approved**

# October 2, 2019

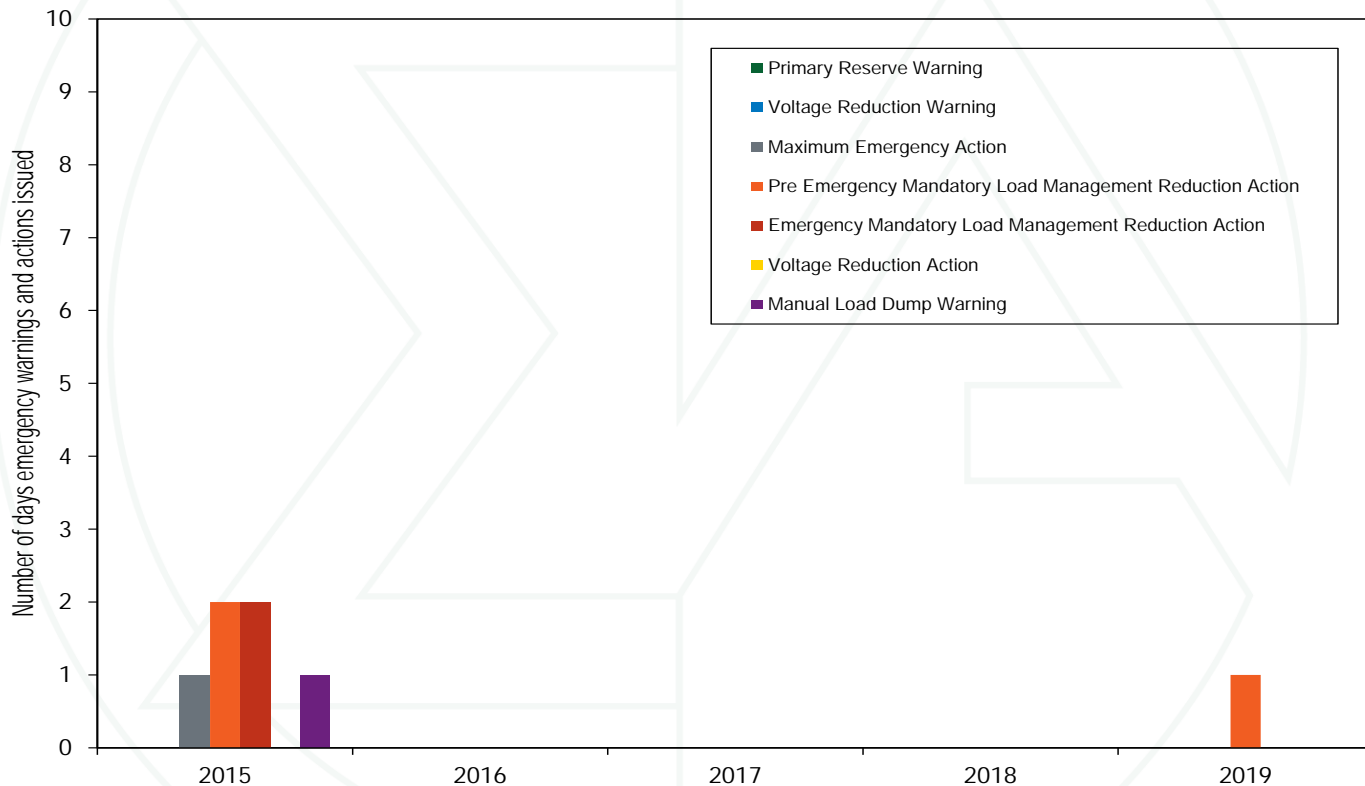
- **October 2, Hours 14 to 16**
  - **Performance Assessment Intervals (PAI)**
  - **Very little DR called with a CP obligation**
  - **Calculation of generator performance**
  - **Capacity shortfalls and bonuses**
  - **Reasons for nonperformance**



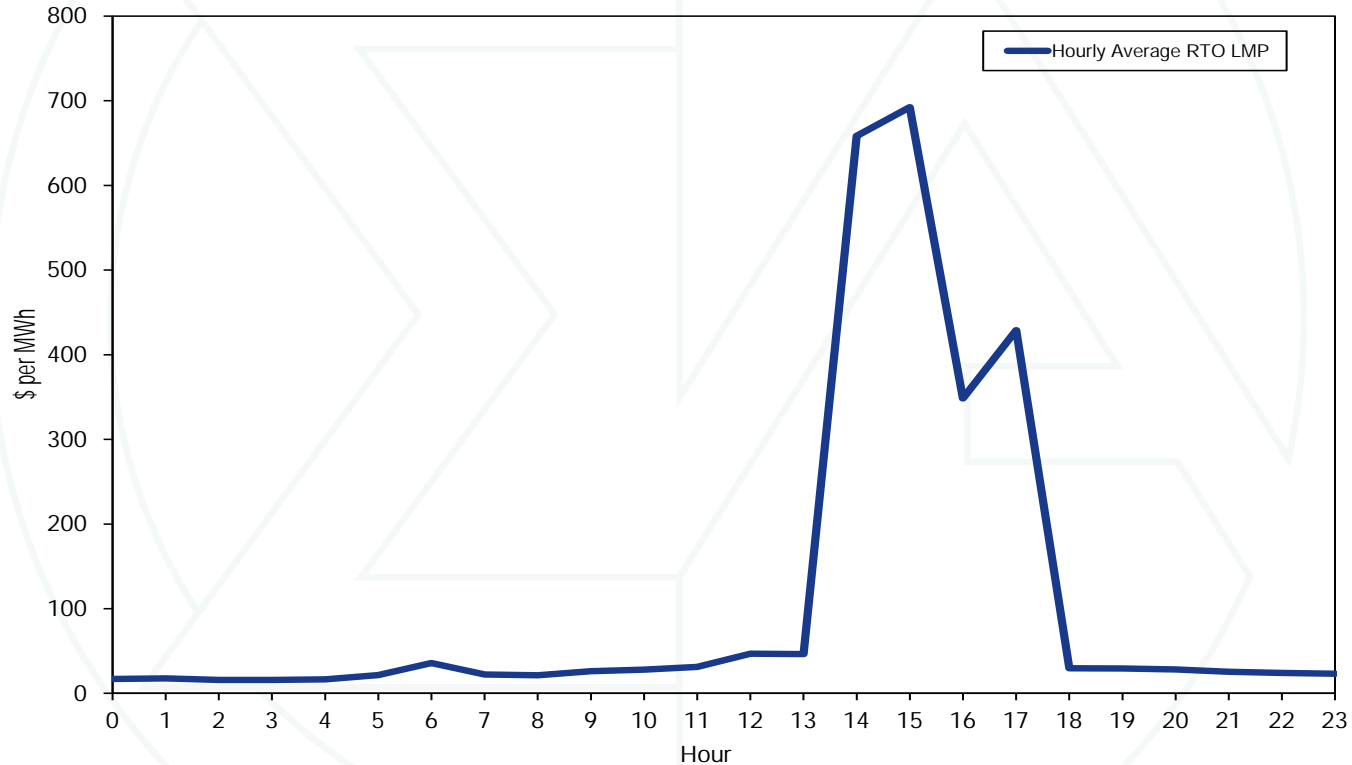
# Summary of emergency events: 2018 and 2019

Event Type	Number of days events declared	
	2018	2019
Cold Weather Alert	12	9
Hot Weather Alert	23	16
Maximum Emergency Generation Alert	0	2
Primary Reserve Alert	0	0
Voltage Reduction Alert	0	0
Primary Reserve Warning	0	0
Voltage Reduction Warning	0	0
Pre Emergency Mandatory Load Management Reduction Action	0	1
Emergency Mandatory Load Management Reduction Action (30, 60 or 120 minute lead time)	0	0
Maximum Emergency Action	0	0
Emergency Energy Bids Requested	0	0
Voltage Reduction Action	0	0
Shortage Pricing	2	17
Energy export recalls from PJM capacity resources	0	0

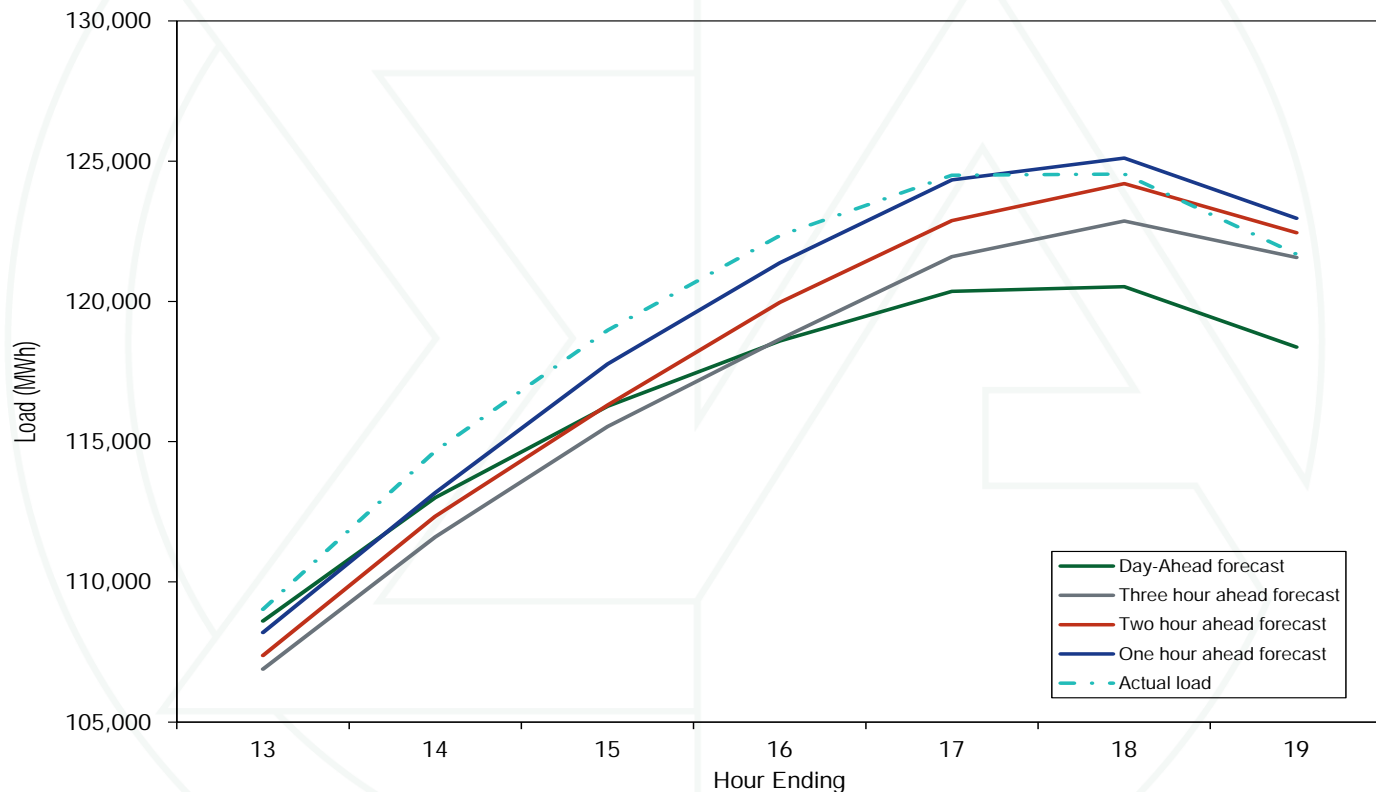
# Emergency warnings and actions: 2015 - 2019



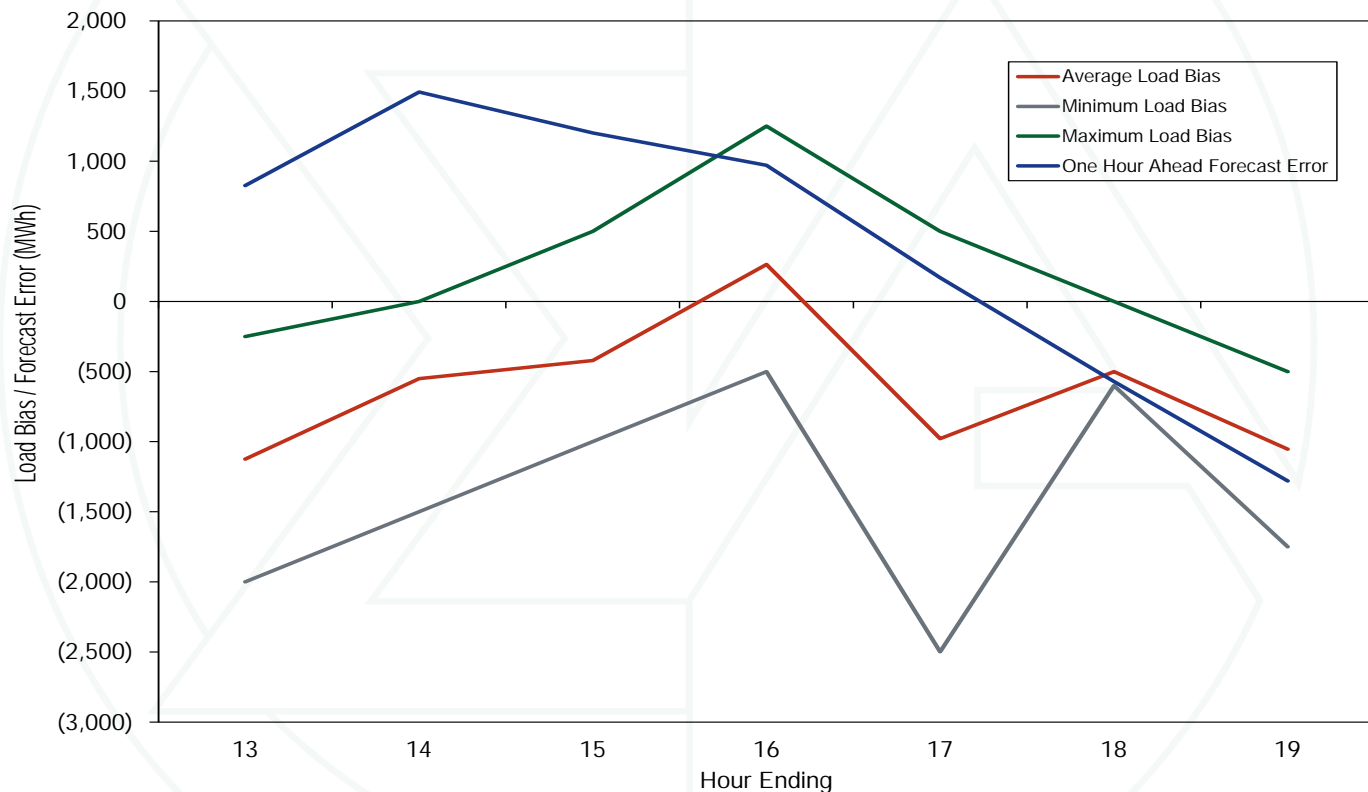
# Real-time RTO LMP: October 1, 2019



# Load forecast and actual load: October 1, 2019



# Load bias and one hour forecast error: 10.01.19

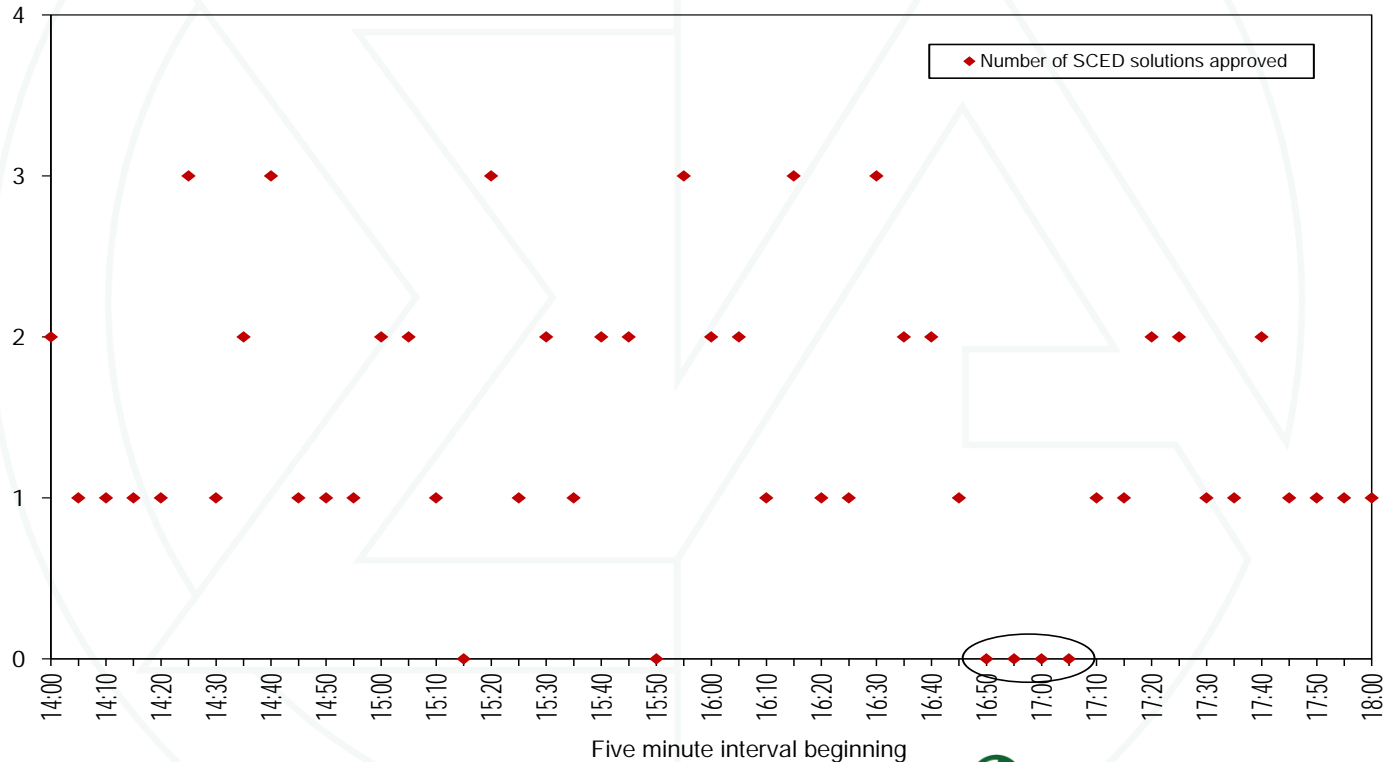




# Top Constraints and violated five minute intervals

Top Constraints	Violated Pricing Intervals (Interval Beginning)
Conastone 5012/3 Base	14:25-15:00; 15:25-15:35
Conastone 5012/3 for the loss of Hunterstown-Conastone	14:55-15:00
Conastone-Peach Bottom Base	14:55-15:00

# Number of approved RT SCED cases per five minute interval: Oct 1, 2019



# RT SCED solutions not approved from 1648 through 1714 EPT: Oct 1, 2019

SCED Case ID	SCED Target Time	Load Bias Solution		
		Low	Mid	High
1	01-Oct 17:00			
2	01-Oct 17:05			
3	01-Oct 17:05			
4	01-Oct 17:10	Shortage	Shortage	Shortage
5	01-Oct 17:10	Shortage	Shortage	Shortage
6	01-Oct 17:15	Shortage	Shortage	Shortage
7	01-Oct 17:15		Shortage	Shortage
8	01-Oct 17:20		Shortage	Shortage
9	01-Oct 17:20			Shortage

# Capacity resource commitments and capacity expected to perform: Oct 2, 2019

Resource Type	Capacity Performance Resources		Base Capacity Resources		Resources Expected to Perform Oct 2, 2019	
	UCAP MW	ICAP MW	UCAP MW	ICAP MW	UCAP MW	ICAP MW
Generation	55,612.0	58,853.1	5,585.6	5,952.9	55,612.0	58,853.1
Demand Resources	88.6	81.2	2,862.3	2,627.4	27.6	25.4
Energy Efficiency	581.8	534.2	167.3	153.6	581.8	534.2

# Expected performance MW by resource type: Oct 2, 2019

PAI Duration (EPT)	PAI Area	Generation (UCAP x B)	Demand Resources (ICAP)	Energy Efficiency (ICAP)
1400 through 1545	AEP, BGE, Pepco, Dominion	41,114.8	25.4	534.2
1545 through 1600	AEP	19,783.2	23.3	143.5

# Average Capacity Committed, Actual Performance and Balancing Ratio

Performance Area	CP Committed UCAP MW	Base Committed UCAPMW	Capacity Generation Resources Actual Performance MW	Energy Only Generation Resources Actual Performance MW	Demand Response Bonus MW	Total Capacity Committed UCAP MW	Total Actual Performance MW	Balancing Ratio
AEP, BGE, Dominion, Pepco	55,612	5,586	44,636	41	567	61,198	45,244	0.74
AEP	24,665	2,662	21,546	41	331	27,327	21,918	0.80



# Nonperformance Charges, Rates and Bonus Rates

Performance Area	Total RPM Nonperformance Charge	Nonperformance Rate (\$/MW-interval)	Nonperformance Rate Equivalent (\$/MWh)	Bonus Rate (\$/MW- interval)	Bonus Rate Equivalent (\$/MWh)
AEP, BGE, Dominion, Pepco	\$8,094,050	282.63	3,391.54	36.36	436.28
AEP	\$90,770	284.21	3,410.52	8.81	105.67



# RT SCED cases with reserve shortage: 2019

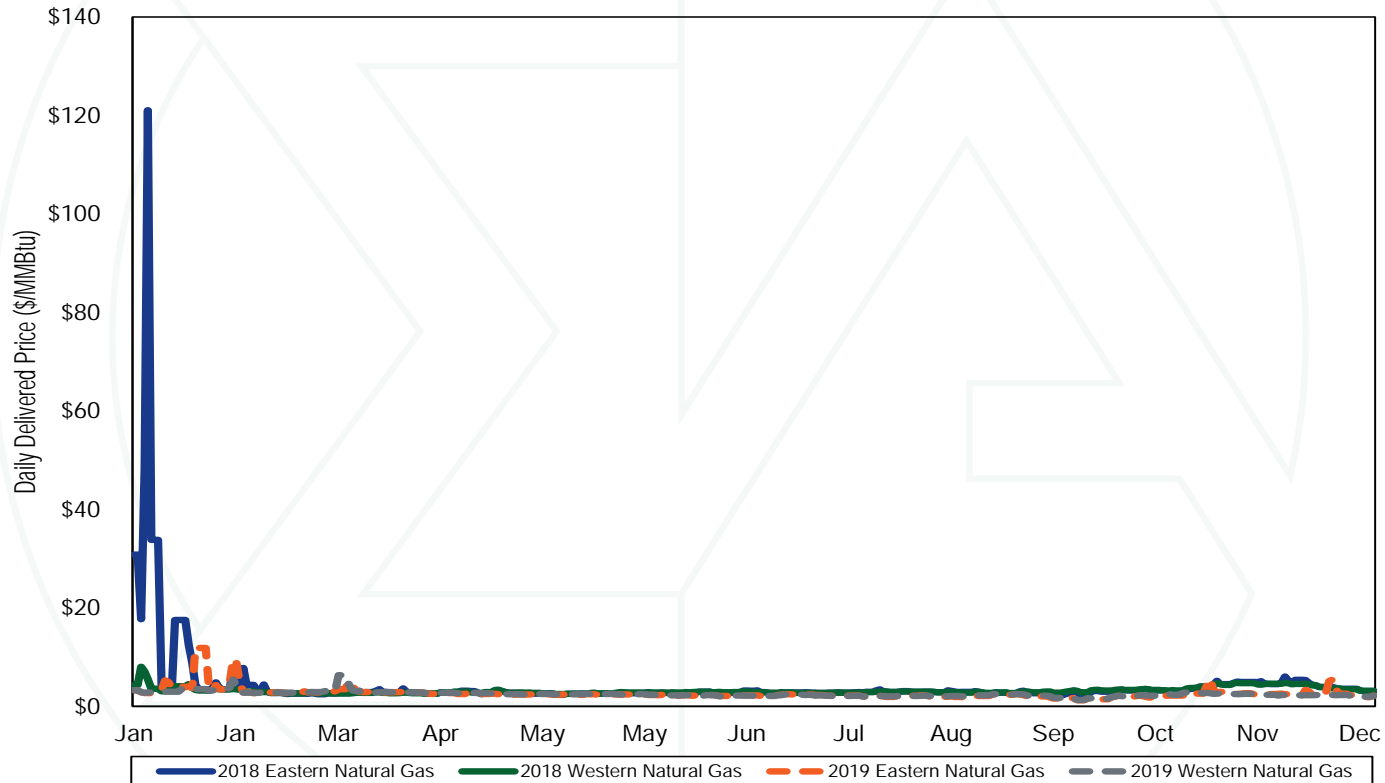
Month (2019)	Number of Solved RT SCED Cases	Number of Solved RT SCED Cases With Reserve Shortage	Number of Approved RT SCED Cases With Reserve Shortage	Number of Approved RT SCED Cases With Reserve Shortage Used in LPC	Cases With Reserve Shortage as Percent of Solved RT SCED Cases	Approved RT SCED Cases With Reserve Shortage as Percent of Solved RT SCED Cases With Shortage	RT SCED Cases With Shortage Used in LPC as Percent of Solved RT SCED Cases With Shortage
Jan	49,158	151	3	3	0.3%	2.0%	2.0%
Feb	43,628	317	0	0	0.7%	0.0%	0.0%
Mar	49,753	713	16	10	1.4%	2.2%	1.4%
Apr	48,765	796	9	6	1.6%	1.1%	0.8%
May	50,772	364	0	0	0.7%	0.0%	0.0%
Jun	51,299	377	0	0	0.7%	0.0%	0.0%
Jul	50,011	544	3	3	1.1%	0.6%	0.6%
Aug	50,769	379	0	0	0.7%	0.0%	0.0%
Sep	49,276	525	4	3	1.1%	0.8%	0.6%
Oct	53,158	566	6	3	1.1%	1.1%	0.5%
Nov	49,284	539	2	1	1.1%	0.4%	0.2%
Dec	49,760	381	4	2	0.8%	1.0%	0.5%
Total	595,633	5,652	47	31	0.9%	0.8%	0.5%



# Five minute intervals with shortage: 2019

Month (2019)	Number of Five Minute Intervals	Number of Intervals With At Least One Solved SCED Case Short of Reserves	Percent Intervals With At Least One Solved SCED Case Short of Reserves	Number of Intervals With Multiple Solved SCED Cases Short of Reserves	Percent Intervals With Multiple Solved SCED Cases Short of Reserves	Number of Intervals With Five Minute Shortage Prices in LPC	Percent Intervals With Five Minute Shortage Prices in LPC
Jan	8,928	87	1.0%	34	0.4%	3	0.0%
Feb	8,064	184	2.3%	79	1.0%	0	0.0%
Mar	8,916	347	3.9%	173	1.9%	10	0.1%
Apr	8,640	424	4.9%	217	2.5%	7	0.1%
May	8,928	203	2.3%	94	1.1%	0	0.0%
Jun	8,640	233	2.7%	93	1.1%	0	0.0%
Jul	8,928	312	3.5%	134	1.5%	3	0.0%
Aug	8,928	218	2.4%	85	1.0%	0	0.0%
Sep	8,640	288	3.3%	131	1.5%	4	0.0%
Oct	8,928	284	3.2%	139	1.6%	3	0.0%
Nov	8,652	283	3.3%	125	1.4%	1	0.0%
Dec	8,928	183	2.0%	101	1.1%	2	0.0%
Total	105,120	3,046	2.9%	1,405	1.3%	33	0.0%

# Average daily delivered price for natural gas: 2018 and 2019 (\$/MMBtu)



# Fuel Cost Policies Templates

- In 2018, the Market Monitor filed a complaint at FERC against PJM for not assessing an FCP penalty.
- PJM argued that the FCP allowed the Market Seller to use quotes even though the FCP did not allow the Market Seller to use quotes.
- PJM argued that language in the General Overview of the FCP template allowed for the use of quotes.
- FERC agreed with PJM.
- FERC also recommended clarifying existing FCPs and the Market Monitor's templates.

# Fuel Cost Policies Templates

- **FERC stated that:**  
**“to prevent future disputes, we encourage Market Sellers, PJM, and the Market Monitor to continue to refine FCPs (including the Market Monitor’s template) to clarify processes for determining how a seller will develop its cost to address a wide array of market conditions, including illiquid conditions, consistent with PJM’s Operating Agreement requirements.”<sup>1</sup>**

<sup>1</sup> *Independent Market Monitoring for PJM Interconnection, L.L.C. v. PJM Interconnection, L.L.C.*, 169 FERC ¶ 61,231 (December 19, 2019) at P. 43.

# Fuel Cost Policies Templates

- **The Market Monitor will modify its fuel cost policy templates to address FERC's recommendation.**
- **As part of the next FCP annual review, the Market Monitor will request that Market Sellers update their FCPs to address FERC's recommendation.**



# Fuel Cost Policies Templates

- **Main template changes:**
  - **Removal of the general overview language in the natural gas fuel cost policies.**
  - **Inclusion of the definition of independent third party fuel cost quotes.**



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