MISO Pricing Reports Readers' Guide

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Version: 3.1

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1 Disclaimer

The data provided in this Readers' Guide is provided for informational purposes only and does not contain information related to the settlement of the MISO's Energy Markets and shall not be relied upon for such purpose. Any party relying on the data provided in this report is doing so at its own risk. MISO shall not be liable for any consequences or damages to any party relying on the data provided herein.

2 Introduction

This document provides an explanation or Readers' Guide to understanding MISO Pricing Reports. For questions or comments regarding the report please contact Client Relations at 866-296-6476 or email at clientrelations@misoenergy.org

3 Glossary

Item	Description
LMP	Locational Marginal Pricing, defined as marginal price for energy at the location where the energy is delivered or received ($/MWh). It is calculated as the sum of system energy price, congestion price, and loss price.
MCP	Market Clearing Pricing, defined as the price associated with clearing Operating Reserves at a Resource CPNode. One MCP is calculated for each product (Regulating, Spinning, and Supplemental) per Reserve Zone.
SCED	Security Constrained Economic Dispatch
ExAnte LMP / MCP	Price produced from the SCED process.
ExPost LMP / MCP	Price calculated from SCED-Pricing process. ExPost LMP and Ex Post MCP are ELMPs.
ELMP	Extended Locational Marginal Pricing ("ELMP") is a new computational method for calculating the Locational Marginal Prices ("LMPs") and

	Market Clearing Prices ("MCPs") for MISO's Energy and Ancillary Services Market. The key improvement of ELMP over MISO's current price calculation method is that ELMP allows Fast Start Resources that are either scheduled at limits or offline to set price. In addition, ELMP allows Emergency Demand Resources ("EDRs") to set price in the Real Time Energy and Operating Reserve Market. Both Start- Up/Shut-Down Offer costs and No-Load Offer costs will be reflected in the LMPs and MCPs set by Fast Start Resources. The software implementation of ELMP is often referred to as SCED-Pricing, the SCED-Pricing algorithm, or the SCED-Pricing engine. SCED-Pricing is defined in a new Schedule 29A in the Tariff.
Hourly Real Time ExPost LMP	The SCED-Pricing algorithm calculates energy LMP for each real time dispatch interval. The resultant LMPs from SCED-Pricing solution are Real-Time Ex Post LMP that are calculated every 5 minutes. Hourly Real-Time Ex Post LMP is the mathematical integration of Real-Time Ex Post LMP over all dispatch intervals during a market hour. The real time market will be settled on Hourly Real-Time Ex Post LMP. However, Market Participants will be notified of the Real-Time Ex Post LMP as they are being calculated. This explanation is also consistent with the other real-time prices that are similarly defined in the Tariff.

4 Report

4.1 Description

Report Type	Report Name	Description	Frequency	Format	Comment
Historical LMP	Annual Real Time LMP 5-Min	Accumulation of RT 5 min LMP energy, congestion, and loss components at pnode level	Monthly	CSV (zip)	
Historical LMP	Day Ahead Market ExAnte LMPs	Hourly DA LMP Energy, Congestion, and Loss components at pnode level and by Type (ExAnte)	Daily	CSV	
Historical LMP	Day Ahead Market ExAnte MCPs	MISO-Wide and pnode level hourly DA MCP components (ExAnte) by Zone	Daily	CSV	
Historical LMP	Day Ahead Market ExPost LMPs	Hourly DA LMP Energy, Congestion, and Loss components at pnode level and by Type (ExPost)	Daily	CSV	
Historical LMP	Day Ahead Market ExPost MCPs	MISO-Wide and pnode level hourly DA MCP components (ExPost) by Zone	Daily	CSV	
Historical LMP	Day Ahead Market LMPs	Hourly DA LMP Energy, Congestion, and Loss components at pnode level and by Type (Discontinued, pre-ELMP)	Formerly daily, now discontinued	CSV	Discontinued due to ELMP implementation on March 1, 2015. It has been replaced by DA Market ExAnte LMPs and DA Market ExPost LMPs reports

Historical LMP	Historical Annual Day Ahead LMPs	Hourly DA LMP Energy, Congestion, and Loss components at pnode level and by Type	Quarterly	CSV (zip)	
Historical LMP	Historical Annual Real Time LMPs	Hourly RT LMP Energy, Congestion, and Loss components at pnode level and by Type	Quarterly	CSV	
Historical LMP	Real Time Final Market LMPs	Hourly Final RT LMP Energy, Congestion, and Loss components at pnode level and by Type	Daily	CSV	It takes on average 3-5 days for the MISO Pricing Team to finalize preliminary LMPs and MCPs
Historical LMP	Real Time Preliminary Market LMPs	Hourly Preliminary RT LMP Energy, Congestion, and Loss components at pnode level and by Type	Daily	CSV	It takes on average 3-5 days for the MISO Pricing Team to finalize preliminary LMPs and MCPs
Historical LMP	Weekly Real-Time 5-Min LMP	Accumulation of RT 5 min LMP energy, congestion, and loss components at pnode level	Weekly	CSV	
Historical LMP	Real-Time 5-Min ExAnte LMPs	RT 5 min Ex-Ante LMP energy, congestion, and loss components at pnode level	Daily	XLS	
Historical MCP	ASM Day Ahead Market MCPs	MISO-wide and node level accumulation of Day-Ahead hourly ASM MCP prices (by type)	Formerly daily, now discontinued	CSV	Has been replaced by DA ASM ExAnte and DA ASM ExPost MCP reports

Historical MCP	Real Time Final Market MCPs	MISO-wide and node level accumulation of Real-Time final hourly ASM MCP prices (by type)	Daily	CSV	It takes on average 3-5 days for the MISO Pricing Team to finalize preliminary LMPs and MCPs
Historical MCP	Real Time Preliminary Market MCPs	MISO-wide and node level accumulation of Real-Time preliminary hourly ASM MCP prices (by type)	Daily	CSV	It takes on average 3-5 days for the MISO Pricing Team to finalize preliminary LMPs and MCPs
Historical MCP	ASM Weekly Real Time ExPost 5-Min MCPs	Real-Time Ex-Post 5 min final ASM MCP prices (by type) at the zonal level	Weekly	XLS	For a listing of cpnodes associated with each zone, please refer to the CP Node to Reserve Zone Cross Reference in the Summary section of the Market Reports website.
Historical MCP	ASM Real-Time 5-Min ExAnte MCPs	Real-Time Ex-Ante 5 min ASM MCP prices (by type) at the zonal level	Daily	XLS	For a listing of cpnodes associated with each zone, please refer to the CP Node to Reserve Zone Cross Reference in the Summary section of the Market Reports website.

*** Some files due to their size will not open on MS Excel in their entirety, so they would need to be imported into a relational database, such as MS Access or SQL Server for further analysis.

4.2 Report Availability Time

Market Pricing reports are available by 8:00 AM EST.

4.3 How to use this Report

4.4 Report Layout

Figure 1 - Report Example

Day Ahead Market ExAnte LMPs

5/14/2015

All Hours-Ending are Eastern Standard Time (EST)

Node	Type	Value	HE 1	HE 2	HE 3	HE 4	HE 5	HE 6	HE 7
AEC	Interface	LMP	23.11	22.3	21.58	20.98	22.11	23.56	28.15
AECI	Interface	LMP	11.05	10.99	10.15	9.39	12.19	13.29	18.45
AECI.ALTW	Loadzone	LMP	13.88	11.92	11.26	11.18	12.12	16.08	15.82
AECI.AMMO	Loadzone	LMP	17.59	16.13	15.63	16.22	17.71	17.32	17.97
AECI.APM_1.AZ	Hub	LMP	17.67	16.2	15.73	16.35	17.77	17.77	18.72
AECI.APM_2.AZ	Hub	LMP	13.1	12.09	11.23	11.21	13.52	14.2	15.6
AECI.CWLD	Loadzone	LMP	13.1	12.09	11.23	11.21	13.52	14.2	15.6
AEP	Interface	LMP	21.08	19.12	19.07	20.21	21.2	25.64	30.95
ALTE.1QUIN.MVP	Hub	LMP	23.6	42.87	22.02	21.8	23.53	30.25	31.99
ALTE.ALTE	Loadzone	LMP	14.54	12.23	11.52	11.77	13.98	21.67	23.69
ALTE.AZ	Hub	LMP	14.67	12.38	11.66	11.89	14.25	21.87	23.76

Dayahead Market MCPs.

5/14/2015

All Hours-Ending are Eastern Standard Time (EST)

		MCP Type	HE 1	HE 2	HE 3	HE 4	HE 5	HE 6	HE 7	HE 8	HE 9	HE 10
MISO Wide	-	DEMREGMCP	5	4.6	5	4.87	4.14	8.86	7.75	9.15	8.16	7
MISO Wide	-	GENREGMCP	5	4.6	5	4.87	4.14	8.86	7.75	9.15	8.16	7
MISO Wide	-	DEMSPINMCP	0.5	0.46	0.46	0.5	0.5	0.87	1.63	2.56	1	1.63
MISO Wide	-	GENSPINMCP	0.5	0.46	0.46	0.5	0.5	0.87	1.63	2.56	1	1.63
MISO Wide	-	DEMSUPPMCP	0.5	0.46	0.46	0.5	0.5	0.75	0.45	0.45	0.45	0.75
MISO Wide	-	GENSUPPMCP	0.5	0.46	0.46	0.5	0.5	0.75	0.45	0.45	0.45	0.75
MISO Wide	-	SERREGMCP	5	4.6	5	4.87	4.14	8.86	7.75	9.15	8.16	7

Pnode	Zone	MCP Type	HE 1	HE 2	HE 3	HE 4	HE 5	HE 6	HE 7	HE 8	HE 9	HE 10
ALTE.NEDG1G1	Zone 1	GENREGMCP	5	4.6	5	4.87	4.14	8.86	7.75	9.15	8.16	7
ALTE.NEDG2G2	Zone 1	GENREGMCP	5	4.6	5	4.87	4.14	8.86	7.75	9.15	8.16	7
ALTW.8THST3	Zone 1	GENREGMCP	5	4.6	5	4.87	4.14	8.86	7.75	9.15	8.16	7
ALTW.8THST4	Zone 1	GENREGMCP	5	4.6	5	4.87	4.14	8.86	7.75	9.15	8.16	7
ALTW.AMESWIND	Zone 1	GENREGMCP	5	4.6	5	4.87	4.14	8.86	7.75	9.15	8.16	7

5 References

BPM 002 - Energy and Operating Reserve Markets

6 Revision History

Version	Date	Description
3.0	05-11-2015	Initial Draft
3.1	03-23-2016	Added new reports