



Member Impacting Project Overview:

Market Settlements System Release 2.13

Version 1.2

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Version Control

Version	Date	Author	Change Description
1.0	12/15/2017	Staff	Initial Draft
1.1	2/1/2018	R.Vanover	Additions of RR200, RR235 and FERQ EQR Report Defects and Changes to MP Testing Dates and Information
1.2	4/18/2018	N. Eason	Updated Production Implementation Date

1. Executive Summary

In this document the term “members” refers to any and all stakeholders which could include Market Participants, Members, Customers, Transmission Owners, Vendors, etc.

Market Settlements System (MSS) 2.13 is a Member facing/impacting release that consists of RR222 – MCR Configuration Identification, RR243 – Mitigated Energy Offer for Regulation Deployment Adjustment Settlements, RR200 – Design Change for BSS and OCL Distribution and RR235 – Correction for RR235 along with various other system enhancements as detailed herein.

1.1. RR222 - MCR Configuration Identification

This Revision Request includes the committed and actual configuration of a Multi-Configuration Combined Cycle Resource (MCR) for each interval of a commitment in the bill determinant report available to market participants on the Marketplace Portal.

The bill determinant report available to market participants on the Marketplace Portal will include the committed and actual configuration of an MCR for each interval of a commitment. Each MCR committed in the Day-Ahead Market will receive an indicator identifying the configuration of the MCR from the Day-Ahead Market clearing for each hour the MCR is committed. Each MCR committed in the Day-Ahead and/or Intraday RUC process will receive an indicator identifying the configuration of the MCR from the RUC process for each dispatch interval of the commitment. In the RTBM, each MCR will receive an indicator identifying the current configuration of the MCR, from the ICCP data received from the resource, for each Dispatch Interval of the operating day.

Members with MCR(s) will be able to shadow the configuration SPP is utilizing to settle these resources. This will allow for more accurate shadow settlement and less confusion regarding the offer parameters used by SPP. It will also provide additional transparency into any deviations related to configuration mismatch.

1.2. RR243 - Mitigated Energy Offer for Regulation Deployment Adjustment Settlements

This revision closes the potential gaming opportunity related to Regulation Deployment Adjustment. It will minimize the credits and maximize the charges related to the charge type by using either the as-dispatched Energy Offer Curve or the Mitigated Energy Offer Curve. It will reduce the total cost of the market by lowering the total net credits of the Regulation Deployment Adjustment.

For Regulation-Up, the adjustment will be the difference between what the resource was paid through LMP for deployed/delivered Regulation-Up and the lesser of the as-dispatched Energy Offer Curve and Mitigated Energy Offer Curve for the same deployed/delivered regulation-up.

For Regulation-Down, the adjustment will be the difference between the greater of the as-dispatched Energy Offer Curve and Mitigated Offer Curve for deployed/delivered Regulation-Down and what the resource would have been paid through LMP had it not been deployed for Regulation-Down.

1.3. RR200 – Design Change for BSS and OCL Distribution

This Revision Request removes Bilateral Settlement Schedules (BSSs) at hubs and generation Settlement locations from the Over-Collected Losses (OCL) distribution calculation. This RR was written to only allow BSSs at a withdrawal point to be included in the OCL distribution calculation.

In the 2014 Annual State of the Market (ASOM), SPP MMU recommended removing BSSs from the OCL distribution calculation. SPP MMU presented to the MWG that BSSs could dilute OCL rebates within the marketplace at hubs and generation Settlement Locations. This RR was written to only allow BSSs at a withdrawal point to be included in the OCL distribution calculation. These BSSs will be capped at the maximum amount of the Real-Time withdrawal minus

any amount of GFAs/FSEs. By changing the OCL distribution design to only include the BSSs as describe above, the dilution caused by the BSSs at a generation or hub Settlement Location will be diminished.

RR235 – Correction to RR200

This Revision Request is a correction to RR200 (Design Change for BSS and OCL Distribution) that was approved by MOPC and BOD April 2017. In this RR there are modifications to two equations in Section 4.5.9.20 (Over-Collected Losses Distribution Amount) of the Integrated Marketplace Protocols to accurately reflect the true intent of RR200.

Section 4.5.9.20 (c.1) is summing hourly quantities and does not need a “/12”. Section 4.5.9.20 (c.2) is summing 5-minute quantities and needs a “/12”. This RR moves the “/12” from Settlement equation c.1 to equation c.2. In addition, 4.5.9.20 (c.1) equation was changed to use the hourly version of the Settlement Location to Loss Pool mapping bill determinant. This RR also creates a new billing determinant, to accurately reflect the modification in the equation in Section 4.5.9.20 (1)(c.1).

RR200 and RR235 should have previously been tested with the MSS 2.12 release however, members are encouraged to test these changes again with MSS 2.13.

1.4 Additional Defects/Enhancements

In addition to the implementation of the MPRR(s) noted above, the following member facing/member impacting defects or enhancements are addressed in this release.

- 03-2027 – Enhance member-facing Settlements UI to present meaningful message when user does not have appropriate role assigned to certificate
 - 03-2080 – BSS UI
 - 03-2081 – Meter Data UI
 - 03-2083 – Notification UI
 - 03-2084 – Settlements Reports UI
- 03-2142 – FERC Formatted EQR reporting BeginDate, EndDate, and TradeDate for Operating Date 12/31/2017 Issue Correction
- 03-2154 – FERC Formatted EQR reporting date/time fields changed from GMT to CPT

2. Business Impact

2.1. Users Impacted

All Market Participants that:

- Have Multi-Configuration Resources (MCRs) (RR222)
- Have generators that are certified to produce Regulation Up and/or Regulation Down (RR243)
- Have Bilateral Settlement Schedules (BSS) at hubs and generation Settlement locations (RR200/RR235)
- Utilize the Settlements UI for BSS, Meter Data, Notification, and Settlement Reports.
- Utilize the new FERC EQR Reports to report data to FERC.

2.2. Business Functions Impacted

This change will impact the following departments across the organization:

- Settlements

3. Technical Impact

3.1. SPP Systems/Processes Impacted

- Settlements UI/API
 - Changes are detailed in Section 4.1 below.

4. Member Requirements

Market Participants will need to update their systems and processes to account for the changes associated with the RRs, enhancements, and defects. They will have the opportunity to test changes to Settlement APIs in the MP-facing test environment (MTE). For more details on testing, reference the Testing section of this document, below.

4.1. Anticipated Member Systems/Processes Impacted

- Settlements UI / API
 - N/A
- Settlements Public Data
 - N/A
- Settlements System
 - Modifications will be implemented to address RR222 and RR243. Participants may need to modify their systems to account for these changes including the addition of the following determinants.
 - DaMcrComConfigHrlyInd (RR222)
 - RtMcrComConfig5minInd (RR222)
 - RtMcrConfig5minInd (RR222)
 - RtRegUpMitg5minCostRate (RR243)
 - RtRegDnMitg5minCostRate (RR243)

5. Testing

Testing Assumptions:

- All MPs should have already conducted connectivity testing to the appropriate Integrated Test Environment. This project timeline will not include connectivity testing.
- MP staff who are participating in the testing are trained on the systems they are testing.

Member testing will be conducted in MTE during the month of February and March. Unstructured Member testing can begin in MTE on February 22nd and continue thru February 28th. Structured Member testing will begin on March 1st. The following operating days will be posted to the MTE portal for verification by Market Participants: Initial Settlement Statements for Operating Days March 1, 2018 to March 15, 2018. These Initial Settlement Statements will be posted to the SPP MTE Portal starting on March 8, 2018 and continuing until March 22, 2018. An additional Unstructured Member testing period will be from March 16, 2018 to April 2, 2018.

During the MTE testing period, it is encouraged that meter agents submit meter data on behalf of their market participants. Resources that do not submit meter data will be substituted for State Estimator. Resources that are qualified to provide ancillary products should ensure they are entering offer parameters for those products.

SPP will insure that MCR resources are committed during structured testing for validation of RR222.

For RR222, Market Participants should review and validate the bill determinant report and make sure it includes the committed and actual configuration of an MCR for each interval of a commitment for that MCR.

New determinants to review on the bill determinant report are as follows:

DaMcrComConfigHrlyInd

RtMcrComConfig5minInd
RtMcrConfig5minInd

Please note: Participants with no MCR resources will not receive the three new determinants listed above. Changes implemented for RR222 will not impact the daily Market Settlement. RR222 changes allow for more accurate shadow settlement and less confusion regarding the offer parameters used by SPP and allow for more transparency into any deviations related to configuration mismatch.

For RR243, Market Participants should submit normal and mitigated offers for Regulation Up and Regulation Down into their Market System. The following will be needed to complete the scenarios:

- Members submit normal offers less than mitigated offers for RegUp and/or RegDn.
- Members submit normal offers greater than mitigated offers for RegUp and/or RegDn.

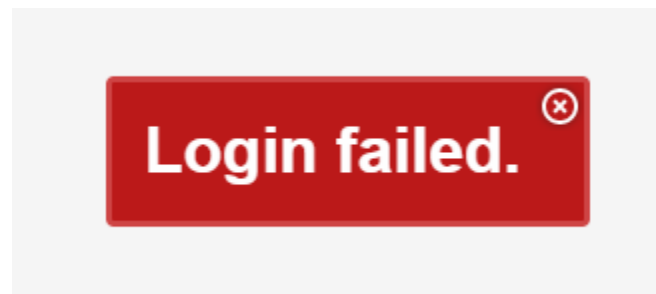
If the above scenarios are not met with member engagement, SPP will modify data in order to complete these scenarios.

New determinants to review on the bill determinant report for RR243 are as follows:

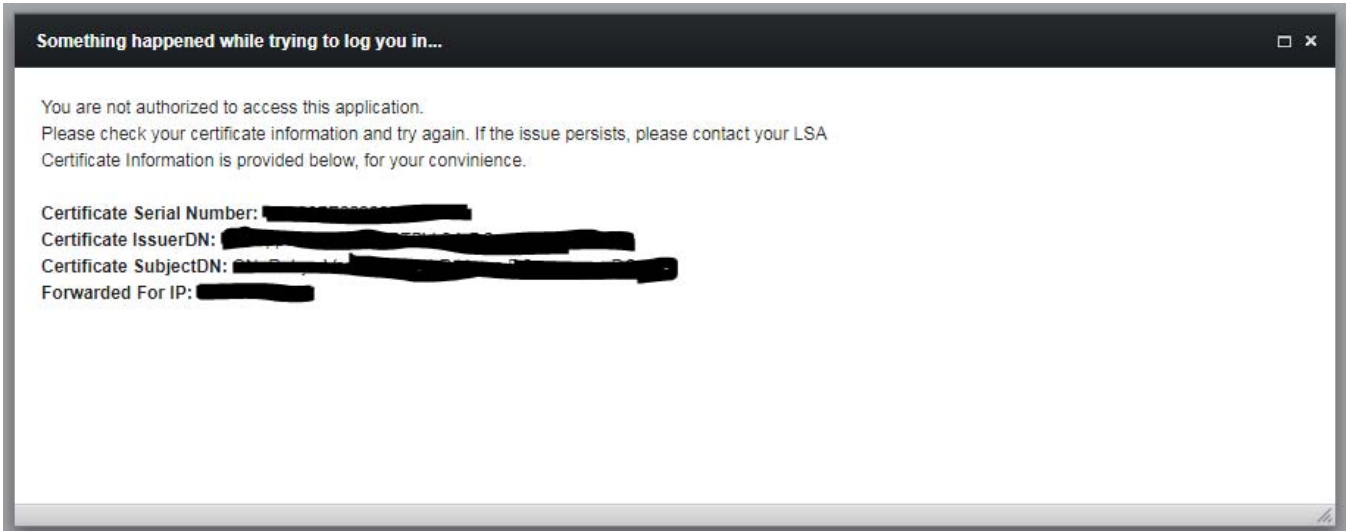
- RtRegUpMitg5minCostRate
- RtRegDnMitg5minCostRate

Market Participants will be responsible for submitting Bilateral Settlement Schedules to re-test the new calculation functionality of RR200/RR235. SPP will not be submitting BSS data for this testing.

Market Participants are not required to test 03-2027, 03-2080, 03-2081, 03-2083 – Enhance member-facing Settlements UI (Settlement Reports, BSS, Meter Data and Notification) to present meaningful message when user does not have appropriate role assigned to certificate. This is more of an informational change to make Market Participants aware. Currently, when an invalid certificate is used to access one of these screens the user gets the following:

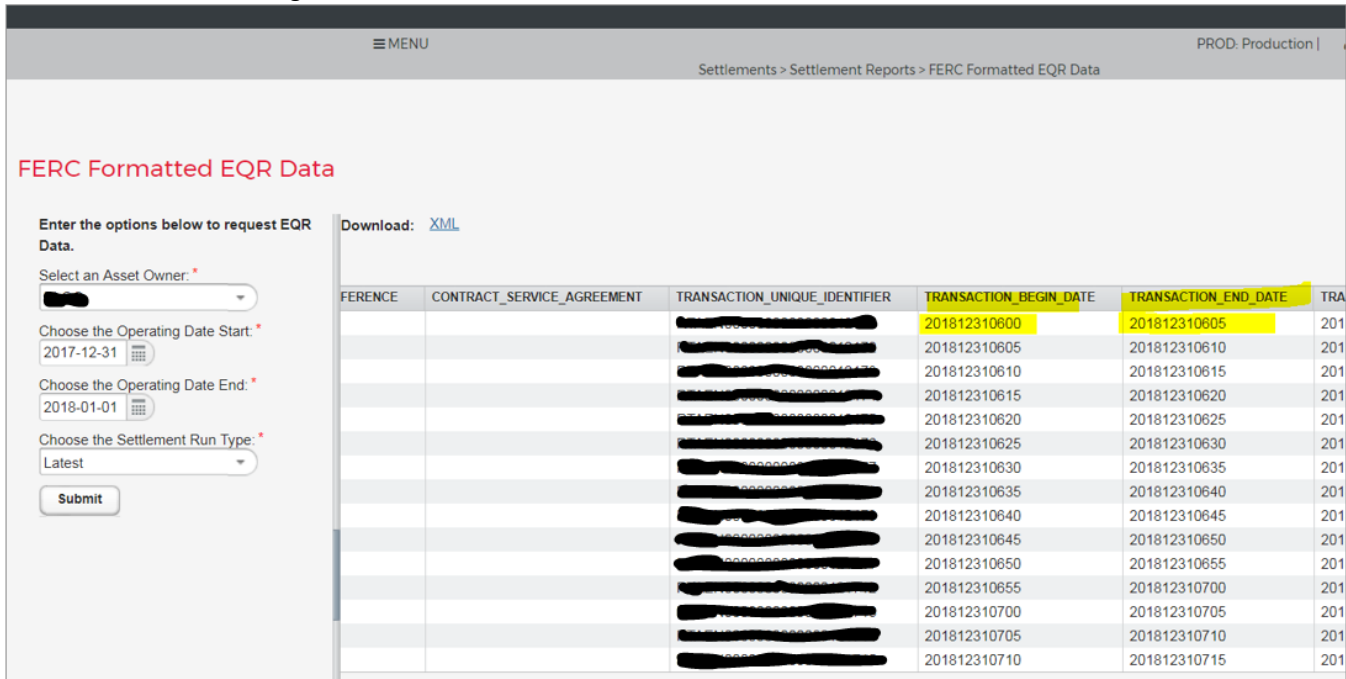


The new message that will appear when an invalid certificate is used will give the user more information regarding the reason for the login failure and will display the invalid certificate information. See example of new message below.



03-2142 – FERC Formatted EQR reporting BeginDate, EndDate, and TradeDate for Operating Date 12/31/2017 Issue Correction - on both the UI and the XML download for Operating Date 12/31/2017 the BeginDate, EndDate and TradeDate are displayed as 12/31/2018 instead of 12/31/2017 as expected see screen shots below of issue and screen shots once fix applied. Informational only, no required testing from Market Participants.

UI screen shot showing incorrect date 12/31/2018



XML Download showing incorrect date of 12/31/2018

AssetOwner	OperatingDateStart	OperatingDateEnd	RequestDateTime	SellerUid	BuyerUid	TransactionGroupRef	BeginDate	EndDate	TradeDate	RateType	TimeZone
[REDACTED]	12/31/2017	1/1/2018	2018-01-23T15:54:56-06:00	[REDACTED]	SOUTHWEST POWER POOL	[REDACTED]	12/31/2018 6:00	12/31/2018 6:05	12/31/2018 0:00	RTO/ISO	CP
[REDACTED]	12/31/2017	1/1/2018	2018-01-23T15:54:56-06:00	[REDACTED]	SOUTHWEST POWER POOL	[REDACTED]	12/31/2018 6:05	12/31/2018 6:10	12/31/2018 0:00	RTO/ISO	CP

UI Screen showing dates after correction applied

TEST: Test Environment | [REDACTED]

Settlements > Settlement Reports > FERC Formatted EQR Data

FERC Formatted EQR Data

Enter the options below to request EQR Data.

Select an Asset Owner: [REDACTED]

Choose the Operating Date Start: 2017-12-30

Choose the Operating Date End: 2018-01-01

Choose the Settlement Run Type: Latest

Download: [XML](#)

CONTRACT_SERVICE_AGREEMENT	TRANSACTION_UNIQUE_IDENTIFIER	TRANSACTION_BEGIN_DATE	TRANSACTION_END_DATE	TRADE_DATE
[REDACTED]	[REDACTED]	201712312355	201801010000	20171231
[REDACTED]	[REDACTED]	201801010000	201801010005	20171231
[REDACTED]	[REDACTED]	201801010005	201801010010	20171231
[REDACTED]	[REDACTED]	201801010010	201801010015	20171231
[REDACTED]	[REDACTED]	201801010015	201801010020	20171231
[REDACTED]	[REDACTED]	201801010020	201801010025	20171231
[REDACTED]	[REDACTED]	201801010025	201801010030	20171231
[REDACTED]	[REDACTED]	201801010030	201801010035	20171231
[REDACTED]	[REDACTED]	201801010035	201801010040	20171231
[REDACTED]	[REDACTED]	201801010040	201801010045	20171231
[REDACTED]	[REDACTED]	201801010045	201801010050	20171231
[REDACTED]	[REDACTED]	201801010050	201801010055	20171231
[REDACTED]	[REDACTED]	201801010055	201801010100	20171231
[REDACTED]	[REDACTED]	201801010100	201801010105	20171231
[REDACTED]	[REDACTED]	201801010105	201801010110	20171231

XML showing correct dates after correction applied

AssetOwner	OperatingDateStart	OperatingDateEnd	RequestDateTime	SellerUid	BuyerUid	TransactionGroupRef	BeginDate	EndDate	TradeDate	RateType	TimeZone
[REDACTED]	12/30/2017	1/1/2018	2018-01-23T16:43:48-06:00	[REDACTED]	SOUTHWEST POWER POOL	[REDACTED]	12/31/2017 23:00	1/1/2018 0:00	12/30/2017 0:00	RTO/ISO	CP
[REDACTED]	12/30/2017	1/1/2018	2018-01-23T16:43:48-06:00	[REDACTED]	SOUTHWEST POWER POOL	[REDACTED]	12/31/2017 6:00	1/1/2018 6:00	12/30/2017 6:00	RTO/ISO	CP

03-2154 – FERC Formatted EQR reporting date/time fields changed from GMT to CPT - currently dates are being reported in GMT time instead of CPT time. Below are screenshots showing the issue and screenshots showing the corrections. This is informational and does not require testing by the Market Participants.

Screenshot showing date problem in GMT

	BeginDate	EndDate	TradeDate
'1	2017-10-01T05:00:00	2017-10-01T05:05:00	2017-10-01T00:00:00
'2	2017-10-01T05:05:00	2017-10-01T05:10:00	2017-10-01T00:00:00
'3	2017-10-01T05:10:00	2017-10-01T05:15:00	2017-10-01T00:00:00
'4	2017-10-01T05:15:00	2017-10-01T05:20:00	2017-10-01T00:00:00
'5	2017-10-01T05:20:00	2017-10-01T05:25:00	2017-10-01T00:00:00
'6	2017-10-01T05:25:00	2017-10-01T05:30:00	2017-10-01T00:00:00
'7	2017-10-01T05:30:00	2017-10-01T05:35:00	2017-10-01T00:00:00
'8	2017-10-01T05:35:00	2017-10-01T05:40:00	2017-10-01T00:00:00
'9	2017-10-01T05:40:00	2017-10-01T05:45:00	2017-10-01T00:00:00
0	2017-10-01T05:45:00	2017-10-01T05:50:00	2017-10-01T00:00:00
1	2017-10-01T05:50:00	2017-10-01T05:55:00	2017-10-01T00:00:00
2	2017-10-01T05:55:00	2017-10-01T06:00:00	2017-10-01T00:00:00
3	2017-10-01T07:00:00	2017-10-01T07:05:00	2017-10-01T00:00:00
4	2017-10-01T07:05:00	2017-10-01T07:10:00	2017-10-01T00:00:00
5	2017-10-01T07:10:00	2017-10-01T07:15:00	2017-10-01T00:00:00
6	2017-10-01T07:15:00	2017-10-01T07:20:00	2017-10-01T00:00:00
7	2017-10-01T07:20:00	2017-10-01T07:25:00	2017-10-01T00:00:00
8	2017-10-01T07:25:00	2017-10-01T07:30:00	2017-10-01T00:00:00
9	2017-10-01T07:45:00	2017-10-01T07:50:00	2017-10-01T00:00:00
0	2017-10-01T09:00:00	2017-10-01T09:05:00	2017-10-01T00:00:00
1	2017-10-01T09:05:00	2017-10-01T09:10:00	2017-10-01T00:00:00

CSV Download after Correction

transaction_begin_date	transaction_end_date	t
201712312355	201801010000	
201712312355	201801010000	
201712312355	201801010000	
201712312355	201801010000	
201712312355	201801010000	

XML Download after Correction

```

TotalTransmissionCharge="0" StandardizedPrice="16" StandardizedQuantity="63" RateUnits="$/MWH" Price="16" Quantity="63" |
pe="RTO/ISO" TradeDate="2017-12-30T00:00:00" EndDate="2017-12-31T01:00:00" BeginDate="2017-12-31T00:00:00"
A"/>
TotalTransmissionCharge="0" StandardizedPrice="16" StandardizedQuantity="63" RateUnits="$/MWH" Price="16" Quantity="63" |
pe="RTO/ISO" TradeDate="2017-12-30T00:00:00" EndDate="2017-12-31T02:00:00" BeginDate="2017-12-31T01:00:00"
A"/>
TotalTransmissionCharge="0" StandardizedPrice="16" StandardizedQuantity="63" RateUnits="$/MWH" Price="16" Quantity="63" |
pe="RTO/ISO" TradeDate="2017-12-30T00:00:00" EndDate="2017-12-31T03:00:00" BeginDate="2017-12-31T02:00:00"
A"/>

```

After the first week of statement posting (March 8th – March 15th), please notify SPP via the Request Management System (RMS) if any additional scenarios are needed. SPP will assist in creating the needed scenarios for the last week of Member testing for statements that will post March 16th thru March 22th.

5.1. Operating and Effective Dates

Member testing will be conducted in MTE during the month of February and March. Unstructured Member testing can begin in MTE on February 22nd and continue thru February 28th. Structured Member testing will begin on March 1st. The following operating days will be posted to the MTE portal for verification by Market Participants: Initial Settlement Statements for Operating Days March 1, 2018 to March 15, 2018. These Initial Settlement Statements will be posted to the SPP MTE Portal starting on March 8, 2018 and continuing until March 22, 2018. Unstructured MP testing can continue from March 16, 2018 until April 2, 2018. No Settlement Statements will be produced during Unstructured Member Testing.

RR222/RR243 will be effective January 25, 2018 in MTE. The effective date for RR222/RR243 in Production will be May 1, 2018.

RR200/RR235 will still be effective October 6, 2017 in the MTE environment which is the original MSS 2.12 MTE effective date. The effective date for RR200/RR235 in Production will be May 1, 2018.

6. Training

N/A

7. Implementation/Back-out Plan

If it is necessary to back out the new functionality, SPP will utilize effective dating to turn off this new functionality.

8. Summary of Timeline

Date	Responsible Party	Action
11/01/2017 – 12/14/2017	SPP	Requirements, Design, Build
12/15/2017	SPP	Publish MP Requirements via MIPO revision
N/A	SPP	Publish Draft Technical Specifications
N/A	SPP	Publish Final Technical Specifications, Settlements UI Guide, Public Data Guide and Portal Application Role Reference Guide
02/22/2018 – 02/28/2018	Member	MP Unstructured Testing
03/01/2018 – 03/15/2018	Member	MP Structured Testing – Initial Settlements Statements will be produced for Operating Days 03/01/2018 thru 03/15/2018 and Posted to the MTE Portal beginning on 03/08/2018 and continuing until 03/22/2018.
03/16/2018 – 04/02/2018	Member	MP Unstructured Testing
04/26/2018	SPP / Member	Implementation
05/01/2018	SPP	RR200, RR235, RR222 and RR243 effective in Production

9. Project Assumptions

N/A

10. Risks

FERC Approval required for effective date of 5/1/2018 for RR200, RR235, RR222 and RR243.

11. Additional Documentation

N/A

12. Communication Plan

12.1. Liaisons

There are no liaisons needed for this effort.

13. MIPO and Project Documentation

All project communication and information will be posted to the [Market Settlements System Release 2.13 project folder](#) within the SPP Change Working Group Project Documentation folder.

This MIPO will be updated upon change or with any new information, and according to the Member Project Touch Points and Deliverables. With any update, a redline version will be posted to the project documentation folder, and the CWG will be notified.

14. FAQs

15. Frequently asked questions will be added to the document as identified or necessary.

16. More Information

At any time, members can ask questions or get more information by completing an RMS ticket using "Project Inquiries" Quick Pick and this project's subject option.

RMS link: <https://spprms.issuetrak.com/login.asp>.

If a new user ID is needed for RMS, click on that link and follow the directions for "Register Now".