

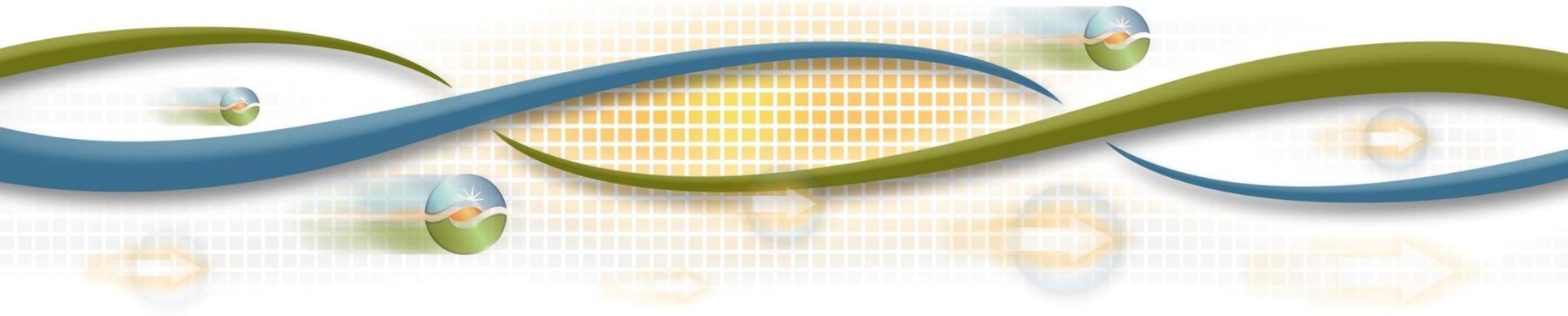


Release User Group Agenda

January 3rd, 2017

10:00 a.m.–11:00 a.m. (Pacific Time)

Web Conference Information	Conference Call Information
URL: https://www.connectmeeting.att.com Meeting Number: 8665282256 Access Code: 5251941	Domestic Call In: (866) 528-2256 International Call In: (216) 706-7052 Access Code: 5251941



Release User Group Agenda

January 3rd, 2017

10:00 a.m. – 11:00 a.m. (Pacific Time)

Time	Topic	Facilitator
10:00 – 10:05	Agenda & ISO Roll call	Adrian Chiosea
10:05 – 10:45	Release Plan	Janet Morris Jeremy Malekos Jim Barber Roxann Hall Michael Lucas John Williams Brett Bruderer Joanne Alai Marcelo Da Costa Marc Stuckey Christopher McIntosh Jami Herguth Prince Phillip Sandhya Balasubramanian Eureka Cullado Indu Nambiar Justin Wong LuAnn Rivera Cynthia Hinman Trang Deluca

The ISO offers comprehensive training programs

Date	Training
January 11	Welcome to the ISO (webinar)
February 7	Settlements 101 (Folsom)
February 8	Settlements 201 (Folsom)

Training calendar - <http://www.caiso.com/participate/Pages/Training/default.aspx>

Contact us - markettraining@caiso.com

Release Plan 2017

Independent 2017

- [ADS Client Replacement \(Mandatory\)](#)
- [Acceptable Use Policy – CMRI](#)
- [Administrative Pricing Policy Updates](#)
- RTD Local Market Power Mitigation (LMPM) Enhancements
- CRR Clawback Modifications
- PIRP System Decommissioning
- MRI-S ACL Groups + CPG Enhancements (formerly OMAR Replacement)
- Reactive Power Requirements and Financial Compensation – no system changes
- RIMS Functional Enhancements
- Metering Rules Enhancements

Fall 2017

- Bidding Rules Enhancements – Part B
- Reliability Services Initiative Phase 1B
- Reliability Services Initiative Phase 2
- Commitment Cost Enhancement Phase 3
- EIM 2017 Enhancements
- EIM Portland General Electric (PGE)

Release Plan – 2018 and subject to further planning

Spring 2018

- EIM 2018 Idaho Power Company

Fall 2018 – tentative, subject to impact assessment

- Bid Cost Recovery Enhancements
- Generation Contingency and Remedial Action Scheme
- Flexible Resource Adequacy Criteria and Must-offer Obligation Phase 2
- Frequency Response Phase 2
- Contingency Modeling Enhancements
- Commitment Costs and Default Energy Bid Enhancements
- ADS User Interface Replacement

Subject to further release planning:

- ESDER Phase 2
- Stepped Transmission Constraints
- Regional Resource Adequacy
- Regional Integration and EIM Greenhouse Gas Compliance
- Transmission Access Charge Options

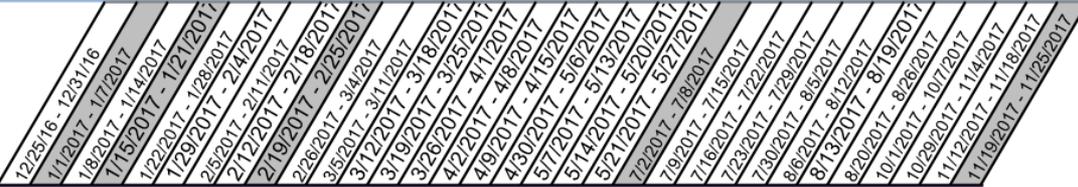
Release Schedule 2016 - 2017

Date of Data Refresh: 12/30/16 10:39 AM



California ISO

Legend	
Market Simulation	
CA ISO Holiday	
Deployment Week	



MAP Stage Environment Window

ADS TLS Risk Remediation - Market Sim	ADS TLS Risk Remediation - Market Sim (10/12-01/06)
Settlements Release - January 2017	Settlements Release - January 2017 (01/09-01/30)
RTD - Local Market Power Mitigation Enhancement - Market Sim	RTD - Local Market Power Mitigation Enhancement - Market Sim (01/30-02/16)
PIRP Decommissioning - Market Sim	PIRP Decommissioning - Market Sim (01/11-01/27)
MRI-S Phase 1 - ACL Groups - Market Sim	MRI-S Phase 1 - ACL Groups - Market Sim (01/11-01/27)
MRI-S Phase 2 - CPG Enhancements - Market Sim	MRI-S Phase 2 - CPG Enhancements - Market Sim (01/18-02/08)
FNM Promotion 2017Q1	FNM Promotion 2017Q1 (02/22-02/22)
FNM Promotion 2017Q2	FNM Promotion 2017Q2 (05/23-05/23)
Bidding Rules Part B - Market Sim	Bidding Rules Part B - Market Sim (07/05-07/31)
Reliability Services Initiative Phase 1B - Market Sim	Reliability Services Initiative Phase 1B - Market Sim (07/05-07/31)
Reliability Services Initiative Phase 2 - Market Sim	Reliability Services Initiative Phase 2 - Market Sim (07/05-07/31)
Commitment Costs Phase 3 - Market Sim	Commitment Costs Phase 3 - Market Sim (07/05-07/31)
EIM Enhancements 2017 - Market Sim	EIM Enhancements 2017 - Market Sim (07/05-07/31)
EIM - Portland General Electric - Market Sim	EIM - Portland General Electric - Market Sim (07/05-07/31)
FNM Promotion 2017Q3	FNM Promotion 2017Q3 (08/22-08/22)
FNM Promotion 2017Q4	FNM Promotion 2017Q4 (11/21-11/21)

Parallel Operations Environment Window

EIM - Portland General Electric	EIM - Portland General Electric (08/01-09/30)
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Production Environment Window

Acceptable Use Policy - CMRI	Acceptable Use Policy - CMRI (01/06-01/06)
ADS TLS Risk Remediation	ADS TLS Risk Remediation (01/06-01/06)
Settlements Release - January 2017	Settlements Release - January 2017 (01/30-01/30)
Administrative Pricing Policy Updates	Administrative Pricing Policy Updates (02/01-02/01)
MRI-S Phase 1 - ACL Groups	MRI-S Phase 1 - ACL Groups (02/01-02/01)
PIRP Decommissioning - AIM / ACL Production Deployment	PIRP Decommissioning - AIM / ACL Production Deployment (02/01-02/01)
FNM Promotion 2017Q1	FNM Promotion 2017Q1 (02/14-02/16)
MRI-S Phase 2 - CPG Enhancements	MRI-S Phase 2 - CPG Enhancements (02/14-02/14)
RTD - Local Market Power Mitigation Enhancement	RTD - Local Market Power Mitigation Enhancement (03/01-03/01)
CRR Clawback Modification	CRR Clawback Modification (04/01-04/01)
Reactive Power Requirements and Financial Compensation	Reactive Power Requirements and Financial Compensation (04/01-04/01)
Metering Rules Enhancements	Metering Rules Enhancements (04/01-04/01)
PIRP Decommissioning	PIRP Decommissioning (04/04-04/04)
FNM Promotion 2017Q2	FNM Promotion 2017Q2 (05/16-05/18)
FNM Promotion 2017Q3	FNM Promotion 2017Q3 (08/15-08/17)
EIM - Portland General Electric	EIM - Portland General Electric (10/01-10/01)
EIM Enhancements 2017	EIM Enhancements 2017 (10/01-10/01)
Reliability Services Initiative Phase 1B	Reliability Services Initiative Phase 1B (10/01-10/01)
Reliability Services Initiative Phase 2	Reliability Services Initiative Phase 2 (10/01-10/01)
Bidding Rules Part B	Bidding Rules Part B (10/01-10/01)
Commitment Costs Phase 3	Commitment Costs Phase 3 (10/01-10/01)
FNM Promotion 2017Q4	FNM Promotion 2017Q4 (11/14-11/16)

<http://www.caiso.com/Documents/ReleaseSchedule.pdf>

Settlements Release – January 2017

ISSUE SUMMARY	BPM IMPACTED
Update BPM for charge code 6478 real-time system imbalance energy offset and CC 6985 real-time marginal losses offset to align the documentation with the current active settlement configuration	PRR 946: (CC 6478 and CC 6985) Documentation Only
Updated BPM for metered energy adjustment factor pre-calculation to clarify conversion of ramp rate in minutes to MWh	PRR 947: (PC Metered Energy Adjustment Factor)
Updated capacity procurement mechanism (CPM) related configuration guides to re-formulate the eligible CPM capacity designation quantity and pass through bill functionality	PRR 948: (PC Metered Demand over TAC Area, CC 7891, and CC 7896)
Update BPM configuration guide for spin non-spin no pay pre-calculation to retroactively adjust calculation impacting resources without regulation schedules	PRR 949: (PC Spin Non-Spin No-Pay)
Update BPMs for start-up and minimum load cost and integrated forward market net amount pre-calculation to implement bidding rules enhancement Pmin rerate Pmax derate settlements	PRR 955: (PC Start-up Metered Energy Adjustment Factor v.5.14, and PC IFM Net Amount)
Update configuration guides in accordance with administrative pricing initiative to settle congestion revenue rights at the average hourly fifteen minute market price when specific conditions are triggered	PRR 956: (CC 6700)
Update existing BPM for real-time net amount pre-calculation to exclude hourly block bid opted intertie resources flex ramp product settlement amounts in bid cost recovery	PRR 957: (PC RTM Net Amount)
Update real time market net amount pre-calculation for regulation up and regulation down bid cost recovery costs	PRR# 958 (PC RTM Net Amount)

Settlements Release – January 2017

Milestone	Date	Status
Configuration Guides Posted	December 13, 2016	✓
DRAFT Configuration Output File Posted	December 15, 2016	✓
MAP Stage Deployment	January 9, 2017	
Sample Statement Posted	Trade Dates: January 10, 11, 2017 Calendar Dates: January 17, 18, 2017	
Pre-Production DRAFT Configuration Output File Posted	January 23, 2017	
Production Deployment	January 30, 2017	
FINAL Configuration Output File Posted	January 30, 2017	

2017 Projects - Major Milestones Summary

Project	Market Simulation	Deployment/Activation	Decommissioning
ADS Client Replacement (Mandatory)	ADS Client ver 6.0.0.0 made available for testing in MAP Stage on 10/12/2016	ADS Client production-level version 6.0.x available as of 10/28/2016 Availability of production level ADS version started a grace period of approx 2 months for market participants to transition to the new version	All prior supported ADS client versions (which includes 5.2.8.0 and 5.2.4.0) will be decommissioned and inaccessible at a date in March to be determined.
Acceptable Use Policy - CMRI	Completed	February , 2017	N/A
ACL Groups (formerly OMAR Replacement and PIRP Decommissioning)	Jan 11 – 27, 2017	Feb 1, 2017	ISO decommissions PIRP based upon a two-month buffer period between ACL group functionality being active in Production. Target April 4.
MRI-S Customer Partnership Group identified enhancements (formerly OMAR Replacement)	Jan 18 – Feb 8, 2017	Feb 14, 2017	OMAR will be decommissioned after a four month grace period starting when MRI-S enhancements deploy to MAP Stage (market simulation).

2017 Independent Releases Market Simulations

- Market Simulation Plan – <http://www.caiso.com/Documents/MarketSimulationPlanIndependentReleases2017.pdf>

<u>Independent 2017 Releases Initiatives</u>	<u>Start Date (Trade Date)</u>	<u>End Date (Trade Date)</u>	<u>Structured Simulation Start (Trade Date)</u>	<u>Expected Participation</u>
<u>Independent 2017 Releases</u>				
RTD LMPM	1/31/17	2/16/17	N/A	EIM Entities and ISO MPs
PIRP System Decommissioning	1/11/17	1/27/17	N/A	ISO MPs
MRI-S ACL Groups and CPG Enhancements	1/18/17	2/8/17	N/A	EIM Entities and ISO MPs

2017 – ADS Client Replacement (Mandatory)

Project Info	Details/Date
Application Software Changes	Scope includes updates to work with TLS version 1.0. All prior supported ADS client versions (which includes 5.2.8.0 and 5.2.4.0) will be decommissioned and inaccessible at a date in March to be determined .

Milestone Type	Milestone Name	Dates	Status
Board Approval	Board Approval	N/A	
BPMs	BPMs	N/A	
External BRS	External BRS	N/A	
Tariff	Tariff	N/A	
Config Guides	ConfigGuide	N/A	
Tech Spec	Tech Spec	N/A	
Market Sim	Market Sim Window	Oct 12, 2016 - Jan 06, 2017	
Production Activation	ADS TLS Risk Remediation	Jan 06, 2017	

ADS Client certified for Windows 7 and 10

2017 – Acceptable Use Policy – CMRI

Project Info	Details/Date
Application Software Changes	Scope includes enforcement of Acceptable Use Policy for CMRI services to support the full implementation of 1 call per service per identity (as designated by certificate) every 5 seconds. An error code of 429 will be returned for any violation instance of the use policy.

Milestone Type	Milestone Name	Dates	Status
Board Approval	Board Approval	N/A	
BPMs	BPMs	N/A	
External BRS	External BRS	N/A	
Tariff	Tariff	N/A	
Config Guides	Config Guide	N/A	
Tech Spec	Tech Spec	N/A	
Market Sim	Market Sim Window	Aug 23, 2016 - Sep 23, 2016	✓
Production Activation	Acceptable Use Policy - CMRI	February, 2017	

CMRI URL Standardization

Service	Version #	Existing URL https://wsstas.caiso.com:4445/sst/runtime.asvc https://wsstas.ecn.wepex.net:4445/sst/runtime.asvc	Standardized URL https://ws.caiso.com/sst/cmri https://ws.ecn.wepex.net/sst/cmri
MarketAwards	v2	Decommission on 12/01/2016	None exists
	v3	Decommission on 12/01/2016	Supported
	v4	None exists	Supported
MarketSchedules	v1	Decommission on 12/01/2016	None exists
	v2	Decommission on 12/01/2016	Supported
	v3	None exists	Supported
SchedulePrices	v2	Decommission on 12/01/2016	None exists
	v3	Decommission on 12/01/2016	Supported
	v4	None exists	Supported
ExpectedEnergy AllocationDetails	v1	Decommission on 12/01/2016	None exists
	v2	Decommission on 12/01/2016	Supported
	v3	None exists	Supported
GreenHouseGas CapData	v1	None exists	Supported
EIMInterchange ScheduleData	v1		
ResourceMovementPoint	v1		
ResourceLevel Movement	v1		
EIRForecast	v1		
ElectricityPriceIndex	v1		
All other pre Fall 2016 existing services	existing	Decommission on 12/01/2016	Supported

2017 – Administrative Pricing Policy Updates

Project Info	Details/Date
Application Software Changes	<ul style="list-style-type: none"> • MQS: <ul style="list-style-type: none"> • <i>Part 1 (used under normal market conditions):</i> If there are less than 12 RTDs and 4 RTPDs missing – leverage existing process (last price used) • <i>Part 2 (used under normal market conditions):</i> If RTD prices are available copy over to RTPD; RTPD prices available copy over RTD. If neither RTPD or RTD prices are available use DA prices • <i>Part 3 (used Market Suspension conditions):</i> Use DA prices. If we don't have DA prices, revert to prior DA prices (awards and prices)
Business Process Change	<ul style="list-style-type: none"> • Manage Markets and Grid
BPMs	Market Instruments, Market Operations

Milestone Type	Milestone Name	Dates	Status
Board Approval	BOG Approval	Dec 10, 2014	✓
BPMs	Post Draft BPM changes	Jan 06, 2017	
External BRS	Post External BRS	Mar 20, 2015	✓
Tariff	File Tariff	Nov 23, 2016	✓
Config Guides	Configuration Guide Update	Dec 2, 2016	✓
Tech Spec	Create ISO Interface Spec (Tech spec)	N/A	
Market Sim	Market Sim Window	N/A	
Production Activation	Administrative Pricing Policy Updates	Feb 01, 2017	

2017 - Real Time Dispatch Local Market Power Mitigation

Project Info	Details/Date
Application Software Changes	<ul style="list-style-type: none">• CMRI – Display mitigated bids from RTD process• OASIS (Open Access Sametime Information System): Display RTD reports for Market Clearing, the Pnode clearing, similar to current RTPD reports• RTM (Real Time Market)<ul style="list-style-type: none">• RTPD: Perform the LMPM run as an integral part of the binding interval RTPD run• RTD: Proposed mitigation in RTD run would work the same way as the current RTPD run
BPM Changes	<ul style="list-style-type: none">• Energy Imbalance Market (EIM): under the proposed RTD method, bids are not necessarily mitigated for the whole hour• RTD MPM will work the same way as the current RTPD MPM
Business Process Changes	<ul style="list-style-type: none">• Manage Markets & Grid• ATF – System Operations: Add MPM Application to Real Time and annotate inputs and outputs• ATF – System Operations, Real Time: Add MPM to diagram with inputs and outputs• Level II – Manage Real Time Operations – maintain balancing area

2017 - Real Time Dispatch Local Market Power Mitigation (cont.)

Milestone Type	Milestone Name	Dates	Status
Board Approval	Board of Governors (BOG) approval	Mar 24, 2016	✓
BPMs	Posted Market Operations BPM PRR 945	Nov 04, 2016	✓
External BRS	Post External BRS	Apr 05, 2016	✓
Tariff	Received FERC approval	Nov 08, 2016	✓
Tech Spec	Publish Technical Specification - OASIS	Apr 08, 2016	✓
	Publish Technical Specification - CMRI	Apr 14, 2016	✓
Market Sim	Market Sim Window	Jan 31, 2017 - Feb 16, 2017	
Production Activation	RTD - Local Market Power Mitigation Enhancement	Mar 01, 2017	

Project	CMRI	OASIS	ADS
RTD LMPM	<i>Update (add RTD results):</i> MPMResults v3	<i>Update (add RTD results)-</i> - PRC_MPM_RTM_LMP - PRC_MPM_RTM_NOMOGRAM - PRC_MPM_RTM_NOMOGRAM_CMP - PRC_MPM_RTM_FLOWGATE - PRC_MPM_CNSTR_CMP - PRC_MPM_RTM_REF_BUS -ENE_MPM	N/A

2017 – Congestion Revenue Rights (CRR) Clawback Modifications

Project Info	Details/Date
Application Software Changes	<p>MQS/CRR Clawback:</p> <p>If import bid \leq day-ahead price, then the import is not considered a virtual award. If export bid \geq day-ahead price, then the export is not considered a virtual award. If an import/export bid/self-schedule in real-time market is less than the day-ahead schedule, then the difference shall be still subject to CRR Clawback rule.</p> <p>CRR Clawback rule should include convergence bids cleared on trading hubs and load aggregation points in the flow impact used to determine if the 10% threshold is reached.</p> <p>Inform Market Participants of CRR annual allocation/auction for 2017.</p>
BPM Changes	Market Operations Appendix F
Business Process Changes	TBD

Milestone Type	Milestone Name	Dates	Status
Board Approval	Board of Governors Approval	Jun 28, 2016	✓
BPMs	Publish Final Business Practice Manuals	Jan 30, 2017	
External BRS	Post External BRS	Nov 29, 2016	✓
Tariff	File Tariff	Jan 20, 2017	
	Receive FERC order	Mar 21, 2017	
Production Activation	CRR Clawback Modification	Apr 01, 2017	

2017 – PIRP Decommissioning

Project Info	Details/Date
<p>Application Software Changes: PIRP/CMRI</p>	<ul style="list-style-type: none"> • Forecast Data Reporting (resource-level) that was performed in PIRP will be done in CMRI. Rolling Hour Ahead, Locked Hour Ahead, and Rolling Day-Ahead forecasts. • PIRP Decommissioning to occur in 2017 • CMRI to receive the Electricity Price Index for each resource and publish it to the Market Participants. • 60 Day PIRP / CMRI parallel production to start when AIM/ACL becomes available.
<p>BPM Changes</p>	<p>CMRI Technical Specification; New APIs will be described.</p>
<p>Data Transparency</p> <ul style="list-style-type: none"> • Independent changes, won't impact existing services • Will be made available in Production and cutover schedule is discretionary 	<p>Atlas Reference:</p> <ol style="list-style-type: none"> 1. Price Correction Messages (ATL_PRC_CORR_MSG) 2. Scheduling Point Definition (ATL_SP) 3. BAA and Tie Definition (ATL_BAA_TIE) 4. Scheduling Point and Tie Definition (ATL_SP_TIE) 5. Intertie Constraint and Scheduling Point Mapping (ATL_ITC_SP) 6. Intertie Scheduling Limit and Tie Mapping (ATL_ISL_TIE) <p>Energy</p> <ul style="list-style-type: none"> • EIM Transfer Limits By Tie (ENE_EIM_TRANSFER_LIMITS_TIE) • Wind and Solar Summary (ENE_WIND_SOLAR_SUMMARY) <p>Prices</p> <ul style="list-style-type: none"> • MPM Default Competitive Path Assessment List (PRC_MPM_DEFAULT_CMP)
<p>Business Process Changes</p>	<p>MPs will receive the VER reports from CMRI rather than PIRP.</p>

2017 – PIRP Decommissioning

Milestone Type	Milestone Name	Dates	Status
Board Approval	Board Approval	N/A	
BPMs	Publish Draft Business Practice Manuals (Market Instruments; PRR 936)	Sep 06, 2016	✓
External BRS	External Business Requirements	Jun 29, 2015	✓
Tariff	Tariff Filing Activities	N/A	
Config Guides	Settlements Configuration	N/A	
Tech Spec	Publish Technical Specifications (CMRI; Wind and Solar)	Apr 15, 2016	✓
	Publish Technical Specifications (CMRI: PIRP Decommissioning)	Feb 05, 2016	✓
Market Sim	CMRI Reports; VER Forecast & EPI (Fall 2016 Release)	Aug 23, 2016 - Sep 23, 2016	✓
	PIRP Decommissioning	Jan 11, 2017 - Jan 27, 2017	
Production Activation	CMRI Reports; VER Forecast & EPI (Fall 2016 Release)	Oct 01, 2016	✓
	OASIS API Enhancements; 9 Reports	Dec 20, 2016	✓
	AIM / ACL Production Deployment	Feb 1, 2017	
	PIRP Decommissioning	Apr 4, 2017	

2017 - MRI-S ACL Groups+ CPG Enhancements

Project Info	Details/Date
Application Software Changes	The MRI-S metering (MRI-S) application cannot currently support ACL (Access Control List) groups functionality for defining a subset of resources belonging to an SCID. Enhancements to the Application Identity Management (AIM) application will enable the use of ACL groups for SCID-level read-only access for MRI-S.
BPM Changes	None
Business Process Changes	Potential Level-II business process changes under – <ul style="list-style-type: none"> • Manage Market & Reliability Data & Modeling • Manage Operations Support & Settlements

Milestone Type	Milestone Name	Dates	Status
Board Approval	Board Approval	N/A	
BPMs	Metering BPM Changes	N/A	
External BRS	Post External BRS	Nov 14, 2016	✓
Tariff	Pre-Tariff Filing QRB	N/A	
Config Guides	Configuration Guide	N/A	
Tech Spec	Publish Tech Specs	Nov 02, 2016	✓
Market Simulation	Phase 1 - ACL Groups	Jan 11, 2017 - Jan 27, 2017	
	Phase 2 - MRI-S Metering Enhancements	Jan 18, 2017 - Feb 08, 2017	
Production Activation	Phase 1 - ACL Groups	Feb 01, 2017	
	Phase 2 - MRI-S Metering Enhancements	Feb 14, 2017	

MRI-S ACL Groups + CPG Enhancements

#	System	Summary	Status	Estimated Fix Date
1	MRI-S	CIDI 183777, 183993 - MRI-S for Metering Limitation of 100,000 records.	Under review	See previous slide
2	MRI-S	Option to choose UOM is missing on the UI		
3	MRI-S	CIDI 184018 - Time zone is missing on the UI		
4	MRI-S	CIDI 183777, 183993 - Modification to AUP policy on data retrieval to include querying by last updated time		
5	MRI-S	Option to request for data in various time interval in UI		
6	MRI-S	Ability to view log files within the same organization		
7	MRI-S	Ability to provide SC ID in the data retrieve request		
	MRI-S	*ACL Group – filter read-only at the resource level	In process	See previous slide

* ACL group creation to filter for a read only role at the resource level is not currently available

2017 – Reactive Power Requirements and Financial Compensation

Project Info	Details/Date
Application Software Changes	None
BPM Changes	<p>Generator Interconnection and Deliverability Allocation Procedures</p> <ul style="list-style-type: none"> Reactive power delivery interconnection condition for asynchronous resources. <p>Generator Interconnection Procedures</p> <ul style="list-style-type: none"> Reactive power delivery interconnection condition for asynchronous resources. <p>Generator Management</p> <ul style="list-style-type: none"> Generators' AVR Requirements.
Business Process Changes	<p>Develop Infrastructure (DI) (80001)</p> <ul style="list-style-type: none"> Level II - Manage Generator Interconnection Process (GIP) (Logical Group):

Milestone Type	Milestone Name	Dates	Status
BPMs	Draft BPM changes	TBD	
	Post Draft BPM changes	TBD	
	Publish Final Business Practice Manuals	TBD	
Tariff	File Tariff	12/5/2016	✓
Tariff	Receive FERC order	2/6/2017	
Production Activation	Reactive Power and Financial Compensation activation	4/1/2017	

2017 – RIMS Functional Enhancements

Project Info	Details/Date	Status
Application Software Changes	Functional enhancements resulting from the Customer Partnership Group CPG. More details to be provided in the future.	
BPM Changes	Generator Interconnection and Deliverability Allocation Procedures Generator Interconnection Procedures Managing Full Network Model Metering Generator Management Transmission Planning Process	
Customer Partnership Group	10/16/15	✓
Application and Study Webinar	3/31/16	✓

Milestone Type	Milestone Name	Dates	Status
Board Approval	Board approval not required	N/A	
BPMs	Generator Interconnection and Delivery Allocation	Apr 29, 2016	✓
External BRS	External BRS not Required	N/A	
Tariff	No Tariff Required	N/A	
Tech Spec	No Tech Specifications Required	N/A	
Production Activation Ph1	RIMS5 App & Study	Mar 21, 2016	✓
Production Activation Ph2	RIMS5 Queue Management, Transmission and Generation	TBD	

2017 – Metering Rules Enhancements

Project Info	Details/Date
Application Software Changes	N/A
BPM Changes	<p>Metering</p> <ul style="list-style-type: none"> • Metering BPM will be updated to reflect the ISO ME vs SC ME role options, changes to the metering entity election process, and impacts for metering data access via the metering data submission portal. • EIM BPM will be updated to explain Metering data reporting access based on transitions from ISOME to SCME (shall transition to submission of SQMD meter data to Metering Data submission portal) or SCME to ISOME (shall be able to review historical meter data in MRI-S when resource was SCME). <p>Definitions & Acronyms BPM Changes</p> <ul style="list-style-type: none"> • New Tariff and Business Process/System acronyms.
Business Process Changes	<ul style="list-style-type: none"> • Manage Transmission & Resource Implementation • Manage Market & Reliability Data & Modeling (MMR) (80004) <ul style="list-style-type: none"> • ISO Meter Certification (MMR LII) • Metering Systems Access (Production) (MMR LII) • Metering System Configuration for Market Resources (MMR LII) • Station Power Implementation (MMR LIII) • Application Flow - Billing & Settlements • Analyze Missing Measurement Report (MOS LIII) • Manage Market Billing & Settlements (MOS LII) • Manage Market Quality System (MOS LII) • Manage Rules of Conduct (MOS LII) • Meter Data Acquisition & Processing (MOS LII) • SCME Self Audit (MOS LII)

2017 – Metering Rules Enhancements

Milestone Type	Milestone Name	Dates	Status
Board Approval	Board of Governors (BOG) approval	Dec 14, 2016	✓
BPMs	Market Operations BPM	Feb 02, 2017	
	Energy Imbalance Market BPM	Feb 02, 2017	
External BRS	External Business Requirements	N/A	
Tariff	Tariff Filing at FERC	N/A	
Config Guides	Config Guides	N/A	
Tech Spec	Tech Spec	N/A	
Market Sim	Market Sim Window	N/A	
Production Activation	Metering Rules Enhancements	Apr 01, 2017	

Fall 2017 - Bidding Rules Enhancements – Part B

Project Info	Details/Date
Application Software Changes	<ul style="list-style-type: none"> • MasterFile: <ul style="list-style-type: none"> • Provide ability to submit requests for new fuel regions (Policy Section 8.1.1.3) • Include resource-specific start-up electricity costs in proxy costs based on wholesale projected electricity price, unless resource verifies costs incurred are retail rates (RDT change) • Allow ability to submit a weighting when using a more than one fuel region. • Automation of the Aliso Canyon process for creating NEW Fuel Regions • OASIS: <ul style="list-style-type: none"> • Publish fuel regions (public information)
Business Process Change	<ul style="list-style-type: none"> • Manage Transmission & Resource Implementation • Manage Entity & Resource Maintenance Updates • Manage Full Network Model Maintenance • Manage Market Quality System (MQS)
BPMs	Market Instruments, Market Operations, Reliability Requirements

Milestone Type	Milestone Name	Dates	Status
Board Approval	BOG Approval	Mar 25, 2016	✓
BPMs	Post Draft BPM changes	Jul 07, 2017	
External BRS	Post External BRS	Jan 13, 2017	
Tariff	File Tariff	TBD	
Config Guides	Prepare Draft Configuration Guides	May 01, 2017	
Tech Spec	Create ISO Interface Spec (Tech spec)	May 01, 2017	
Market Sim	Market Sim Window	Jul 05, 2017 - Jul 31, 2017	
Production Activation	Bidding Rules Part B	Oct 01, 2017	

Fall 2017 - Reliability Services Initiative Phase 1B

Project Info	Details/Date	Status
Application Software Changes	<p>Developments under consideration include:</p> <p>Scope:</p> <ul style="list-style-type: none"> • Default flexible qualifying capacity provisions for phase 2 consideration (we might need data collection performed in order to support RSI Phase 2) • Redesign of Replacement Rule for System RA and Monthly RA Process • RA Process and Outage Rules for implementation for 2017 RA year • Scope not delivered in RSI Phase 1A (Grandfathered Contracts, RAAM Decommissioning – SCP & CPM screens from RAAM to CIRA, Acquired Contracts, OASIS reporting, web services related to APIs for CSP offers, APIs for Generic/Flex Substitutions, and Release of Generic/Flex Subs – UI & API) <p>Impacted Systems:</p> <ul style="list-style-type: none"> • CIRA • OASIS • Integration (B2B) • Settlements • Decommission RAAM 	
Business Process Changes	Manage Market & Reliability Data & Modeling	

Milestone Type	Milestone Name	Dates	Status
Board Approval	Board Approval	May 12, 2015	✓
BPMs	Draft BPM Changes - Outage Mgmt, Reliability Reqmts	TBD	
	Post Draft BPM changes	TBD	
	Publish Final Business Practice Manuals	TBD	
External BRS	Post External BRS	Dec 23, 2016	✓
Tariff	File Tariff	TBD	
	Receive FERC order	TBD	
Config Guides	Config Guide	Apr 01, 2017	
Tech Spec	Create ISO Interface Spec (Tech spec)	Apr 01, 2017	
Market Sim	Market Sim Window	Jul 05, 2017 - Jul 31, 2017	
Production Activation	Reliability Services Initiative Phase 1B	Oct 01, 2017	

Fall 2017 – Reliability Services Initiative Phase 2

Project Info	Details/Date
Application Software Changes	<p>CIRA –</p> <ul style="list-style-type: none"> • Modifications to the RA and Supply Plan to show breakdown of local and system. Validation rules need to be updated. • Update planned/forced outage substitution rules • Allow market participants to select how much system/local MWs to substitute. • Modification of UI screens to accommodate system/local MW split. • Enhance system to handle EFC monthly updates similar to NQC (workflow change) • Enhance system to allow exemption from submission of RA Plans for LSE that have a RA obligation < 1 MW for a given capacity product. <p>Settlements –</p> <ul style="list-style-type: none"> • Splitting local from system in upstream RA system could potentially impact the RAAIM calculation.
BPM Changes	<ul style="list-style-type: none"> • Reliability Requirements: Changes to the monthly RA process • Settlements and Billing
Business Process Changes	<p>Manage Market & Reliability Data & Modeling</p> <ul style="list-style-type: none"> - Manage Monthly & Intra-Monthly Reliability Requirements - Manage Yearly Reliability Requirements

Fall 2017 – Reliability Services Initiative Phase 2

Milestone Type	Milestone Name	Dates	Status
Board Approval	Board of Governor's Approval	Oct 27, 2016	✓
BPMs	Draft BPM changes	TBD	
	Post Draft BPM changes	TBD	
	Publish Final Business Practice Manuals	TBD	
External BRS	Post External BRS	Jan 31, 2017	
Tariff	File Tariff	Feb 28, 2017	
	Receive FERC order	TBD	
Config Guides	Config Guide	Apr 01, 2017	
Tech Spec	Publish Technical Specifications	Apr 01, 2017	
Market Sim	Market Sim Window	Jul 05, 2017 - Jul 31, 2017	
Production Activation	Reliability Services Initiative Phase 2	Oct 01, 2017	

Fall 2017 - Commitment Cost Enhancements Phase 3

Project Info	Details/Date
Application Software Changes	<p><u>Scope:</u></p> <ol style="list-style-type: none"> 1. Clarify use-limited registration process and documentation to determine opportunity costs 2. Each submission evaluated on a case-by-case basis to determine if the ISO can calculate opportunity costs <ul style="list-style-type: none"> • ISO calculated; Modeled limitation • Market Participant calculated; Negotiated limitation 3. Enhanced definition of “use-limited” in response to FERC’s rejection of the proposed definition in Cost Commitment Enhancements Phase 2 4. Change Nature of Work attributes (Outage cards) <ol style="list-style-type: none"> 1. Modify use-limited reached for RAAIM Treatment 2. Add new demand response nature of work attribute for RDRR and PDR 5. Market Characteristics <ol style="list-style-type: none"> 1. Maximum Daily Starts 2. Maximum MSG transitions 3. Ramp rates <p><u>Impacted Systems:</u></p> <ol style="list-style-type: none"> 1. CIRA 2. CMRI 3. IFM/RTN 4. SIBR 5. MasterFile 6. OASIS 7. OMS 8. Settlements
BPM Changes	Market Instruments, Outage Management, Reliability Requirement, Market Operations, Settlements & Billing
Business Process Changes	Level II – Manage Reliability Requirements Level II – Manage Day Ahead Market

Fall 2017 - Commitment Cost Enhancements Phase 3 (cont.)

Milestone Type	Milestone Name	Dates	Status
Board Approval	Board of Governors (BOG) Approval	Mar 25, 2016	✓
BPMs	Draft BPM changes	TBD	
	Post Draft BPM changes	TBD	
	Publish Final Business Practice Manuals	TBD	
External BRS	Post External BRS	Jan 6, 2017	
Tariff	File Tariff	TBD	
	Receive FERC order	TBD	
Config Guides	Config Guide	Apr 01, 2017	
Tech Spec	Create ISO Interface Spec (Tech spec)	Apr 01, 2017	
Market Sim	Market Sim Window	Jul 05, 2017 – Jul 31, 2017	
Production Activation	Commitment Costs Phase 3	Oct 01, 2017	

Fall 2017 – EIM Enhancements 2017

Project Info	Details/Date
Application Software Changes	<p>Addresses the following enhancements identified by policy, operations, technology, business and market participants. The following requirements are being evaluated for scope consideration:</p> <ul style="list-style-type: none">• EIM Entity access reports• BAAOP provisioning in AIM• EIM Data report enhancements to support EIM Entity settlements• Joint Owned Units modeling• Allow MSG resource to send actual configuration in telemetry for RTM• Comprehensive model for startup and transition energy in DAM, RTM, RTBS, MQS
BPM Changes	TBD
Business Process Changes	TBD

Fall 2017 – EIM Enhancements 2017 (cont.)

Milestone Type	Milestone Name	Dates	Status
BPMs	Draft BPM changes	TBD	
	Post Draft BPM changes	TBD	
	Publish Final Business Practice Manuals	TBD	
External BRS	External BRS review/Updates - phase 1	Jan 13, 2017	
Tariff	File Tariff	TBD	
	Receive FERC order	TBD	
Config Guides	Design review - BPM and Tariff SMEs	TBD	
Tech Spec	Publish Technical Specifications	Apr 11, 2017	
Market Sim	Market Sim Window	Jul 05, 2017 - Jul 31, 2017	
Production Activation	EIM Enhancements 2017	Oct 01, 2017	

Fall 2017 – EIM Portland General Electric

Project Info	Details/Date
Application Software Changes	Implementation of Portland General Electric as an EIM Entity.
BPM Changes	EIM BPM will be updated to reflect new modeling scenarios identified during PGE implementation and feedback from PGE.
Market Simulation	ISO promoted market network model including PGE area to non-production system and allow PGE exchange data in advance of Market Simulation.
Parallel Operations	August 1 – September 30, 2017

Milestone Type	Milestone Name	Dates	Status
Board Approval	Board of Governors (BOG) approval	N/A	
BPMs	BPMs	N/A	
External BRS	External Business Requirements	N/A	
Tariff	File Tariff	N/A	
Config Guides	Settlements	N/A	
Tech Spec	Tech Spec	N/A	
Market Sim	Market Sim Window	Jun 29, 2017 – Jul 31, 2017	
Production Activation	EIM – Portland General Electric	Oct 01, 2017	

Spring 2018 – EIM Idaho Power Company

Project Info	Details/Date
Application Software Changes	Implementation of Idaho Power Company as an EIM Entity.
BPM Changes	EIM BPM will be updated if needed to reflect new modeling scenarios identified during Idaho Power implementation and feedback from Idaho Power.
Market Simulation	December 1, 2017 – January 31, 2018 ISO and Idaho Power continue progress to integrate the Idaho Power network model with the ISO model in a non-production environment to allow Idaho Power to exchange data in advance of Market Simulation. Initial integration testing is expected to begin in August 2017.
Parallel Operations	February 1, 2018 – March 31, 2018

Milestone Type	Milestone Name	Dates	Status
Board Approval	Board Approval	N/A	
BPMs	BPMs	N/A	
External BRS	External BRS	N/A	
Tariff	File Tariff Changes with FERC	N/A	
	Receive Final FERC Order Tariff Changes	N/A	
Config Guides	Config Guide	N/A	
Tech Spec	Tech Specs	N/A	
Production Activation	EIM - Idaho Power	Apr 01, 2018	