

Western Markets Exploratory Group

Updated Roadmap

June 2023

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1 Executive Summary

The Western Markets Exploratory Group (WMEG) initiated the Straw Proposal Phase in March 2022 to evaluate potential Day-Ahead Market options and additional options for regional collaboration, up to and including a Regional Transmission Organization (RTO) that could provide benefits for their customers. A list of Roadmap Elements was created to provide a basis for analysis. Utilizing this list, a Roadmap was created to organize the study of different features and functions of Markets and other forms of regional collaboration. A key component of this approach was to consider Roadmap Elements incrementally as components of an evolution of capabilities relative to the current Real-Time Market participation in the West.

Through members' efforts in regional forums, including WMEG, multiple, viable, Day-Ahead Market options were identified and studied. Specifically, the WMEG studied the potential production costs impacts for the Extended Day Ahead Market (EDAM) proposed by the California Independent System Operator (CAISO) and the Markets+ and RTO West initiatives proposed by the Southwest Power Pool (SPP) by contracting with Energy and Environmental Economics (E3). E3 studied the production cost impacts related to these two market offerings and the possible transitions from the current proposed day-ahead offerings up to and including a fully functioning RTO.

The EDAM and Markets+ proposals offer an evolutionary path with the potential for future enhancements and features. the RTO West approved terms and conditions will provide a full complement of RTO features. Each of these Market proposals provide members options to advance regional collaboration over the coming years.

These Market and RTO offerings differ in several ways. These differences and limitations were extensively discussed and analyzed during this project. In particular, the following topics were considered and are discussed in more detail in this updated Roadmap.

- Seams / Cross Market Coordination
- Transmission Limitations
- Balancing Authority Area (BAA) Fragmentation
- Green House Gas (GHG) Coordination
- Resource Adequacy

The E3 study revealed that enhanced Markets will yield benefits but that those benefits are not evenly distributed. Key results are summarized in the WMEG: *Western Day Ahead Market Production Cost Impact Study dated June 16, 2023 prepared by E3*. Members also received individual quantitative results as well as the results of sensitivity cases based on the studies each member funded.

Currently, there is not a consensus among WMEG members on the preferred Market option and therefore there is not a single Roadmap for the group to follow. Members have expressed a preference to further evaluate the implementations of Markets+ and EDAM, as well as which footprints will form, as inputs for determining their desired next steps. As that process takes place, the deliverables created during this Phase can be considered along with the selected Market Operators (MOPs) to determine the desired next steps for individual members or combinations of members working together within a Market footprint.

2 Background

2.1 Initial Roadmap and Cost-Benefit Study Approach

An initial Roadmap was prepared to support WMEG's Cost Benefit Study (CBS).

Broadly, this initial Roadmap contemplated evolution in three phases:

1. Participation in Day-Ahead Markets and enhanced Real-Time Markets. The Day-Ahead Markets were later modeled on the CAISO EDAM proposal and the SPP Markets+ proposal.
2. Enhanced Market Coordination, Consolidated BAs, and market definition, procurement, and deployment of Ancillary Services. These enhancements are based on SPP and CAISO full market designs as well as Eastern Interconnection approaches to manage cross-market Seams. The enhancements are expected to be pursued via the MOP.
3. RTO functionality for Regional Transmission Planning and other Planning and Expansion functions of an RTO. Although could be pursued independently, this would be done while still taking Markets Services from an existing MOP.

2.2 Updated Roadmap

Many of the elements of the initial Roadmap are still a key part of the future of regional coordination, enhanced markets, and potential RTO functionality for those that choose to pursue it. This updated Roadmap summarizes the key functional elements considered by WMEG during the Straw Proposal Phase as well as the analysis done on those elements over the course of this Phase. In addition, the updated Roadmap incorporates information from the various Task Forces and Subgroups, the CBS, and ongoing development in the region.

3 Roadmap: Initial Day-Ahead Markets

3.1 Initial Day-Ahead Markets

The first step in the initial Roadmap was to pursue DA Markets and, in the case of WEIS, enhancements to the Real-Time Market to include enhanced commitment functionality. These goals have taken major steps forward since the initiation of WMEG with the completion of the EDAM Proposal, the Markets+ Service Offering, and the initiation of Markets+ Phase 1 Design.

Considerable work remains – neither Market Operator has filed a proposed Tariff with FERC at the time of this Roadmap update – but these efforts are further along than previous attempts to create regional Day-Ahead Markets in the West. Further, both the Markets+ and EDAM efforts are being sponsored by experienced MOPs with a history of successful Market implementations.

In addition, SPP has approved terms and conditions proposed by some Western participants to join full RTO functions including their Markets (“RTO West”). This joining includes more advanced Market elements than Markets+ or EDAM, as well as non-Market services, and is discussed elsewhere in this Roadmap.

As part of the Straw Proposal phase, the key elements of the WMEG Principles were cataloged as “Roadmap Elements”. Background materials that provided additional information on these elements were provided to WMEG participants to increase the consistency in the use of terms.

The following WMEG Roadmap Elements are anticipated to be addressed via either the Markets+ or EDAM proposals:

- Scope and regional configuration (#2)
- Congestion Management (#6)
- Energy Imbalance Market (EIM) (#13)
- Day-Ahead Market (DAM) (#14)

The WMEG CBS showed that Day-Ahead Market participation lowers production costs, though how those cost reductions are distributed is a function of many assumptions. Please see the *Western Day Ahead Market Production Cost Impact Study* for additional information.

While both the EDAM and Markets+ proposals have limitations relative to “full” Day-Ahead Markets, such as the full CAISO Market or the SPP Integrated Marketplace, they provide meaningful improvements on the current real-time only imbalance markets operating in the West. Both the WEIM and WEIS markets rely substantially on self-commitment by participants and a Day-Ahead planning of storage resources which could be improved through an optimized Day-Ahead commitment.

In the short run, WMEG members choosing to pursue an initial Day-Ahead Market will pursue either Markets+, SPP RTO West, or EDAM.

3.2 Initial Day-Ahead Market Limitations

As of June 2023, some WMEG members are pursuing membership in SPP RTO, Markets+, or EDAM. Both the EDAM and Markets+ proposals have limitations relative to “full” Day-Ahead Markets such as the full CAISO Market or the SPP Integrated Marketplace. These limitations were extensively discussed during the Straw Proposal Phase. The following general areas were identified as potential opportunities for enhancements:

- Seams / Cross Market Coordination
- Transmission Limitations
- BAA Fragmentation
- GHG Coordination
- Resource Adequacy

These limitations, and options for improvement, are discussed more in the next section.

4 Roadmap: Enhanced Day-Ahead Markets

There was general consensus during the Straw Proposal phase that Markets+ and EDAM offered the best immediate options for Day-Ahead Market participation. However, several objectives of WMEG will

not be met by these proposals alone. In particular, additional functions or features will be required to achieve the following Roadmap Elements:

- Transmission Tariff Administration and Design (#5)
- Parallel Path Flow (#7)
- OASIS with TTC and ATC Postings (#9)
- Interregional Coordination (#12)
- Ancillary Service Markets (#15)
- Consolidated Balancing Authority (CBA) (#17)
- Incremental Regional Tariff Enhancements (#18)

It is anticipated that members whether considering either Markets+ or EDAM may want to continue to pursue enhanced functionality even across Market footprints. How, when, and if these specific additional functions and features are achieved may depend on the ultimate implementation details for Markets+ and EDAM and the footprints which are formed, or further collaboration across footprints.

This section of the Roadmap is structured based on the approach the WMEG took in analyzing some of the key limitations of the initial Markets.

- Seams / Cross Market Coordination
- Transmission Limitations
- BAA Fragmentation
- GHG Coordination
- Resource Adequacy

The next step to addressing these issues are expected to be pursued with the MOPs. Both SPP and CAISO are undertaking efforts to define “Day 1” requirements and defining paths to additional functions and features. This is also consistent with their historical willingness to evolve their Market offerings to meet the needs of their members. Additional work on these items should take priority after the Initial Day-Ahead Markets stabilize and the footprints become more well defined.

4.1 Seams / Cross Market Coordination

The WMEG Straw Proposal phase included a Seams Task Force which evaluated some of the key issues regional organizations encounter managing the Seams between MOPs, transmission operators, and transmission providers.

The Seams White Paper discusses possible approaches WMEG members could pursue during future regional organizational development efforts. While the paper does not attempt to provide the exact approach nor language for Seams management, it does suggest criteria to use when developing efficient energy transactions between market regions, addressing reliability challenges, coordination of market flows, potential changes for regional and interregional transmission planning efforts, and the need to develop cost allocation for transmission projects.

One of the major findings in the CBS is that there are potential significant benefits for market participants when friction between the markets is reduced. The CBS findings also showed that the

benefits are not evenly distributed to all market participants. E3 reduced hurdle rates to represent the enhanced coordination between MOPs which reduced production costs by \$162 million to \$206 million. The largest portion of this cost reduction accrued as Net Variable Cost reduction for non-WMEG entities. See *Western Day-Ahead Market and Variable Production Cost Study* for more information. Additionally, some members funded a sensitivity case to explore the change in benefits based on differing levels of cross-Market “friction”, represented as different Day-Ahead or Real-Time cross-Market hurdle rates. These were a proxy for different levels of effectiveness of Seams coordination between Market footprints.

Reducing cross-Market friction, or barriers, requires negotiation of specific products, services, or procedures and is not simple and still in development with the more mature markets in the East. Some of the key elements of Market Seams management which have been tried in the Eastern Markets are identified in the Seams white paper. Coordination of this type requires the MOPs to work together. SPP has expressed a willingness to work on Market Seams but at this time, it appears that both MOPs are primarily focused on initiating Markets+ and EDAM. As such, negotiating the details on Markets Seams management agreements appears to be a future opportunity after the initial Day-Ahead Markets and Market footprints are more fully defined.

4.2 Transmission

Assuming that the currently conceived approaches for EDAM and Markets+ Transmission are approved by FERC, it appears that either methodology is viable to implement an initial Day-Ahead Market.

However, WMEG members worked on several different topics related to transmission throughout the effort which could enhance the Day-Ahead Market functionality. Some transmission related topics are covered in the Seams white paper. Elaboration on others is included in this section.

4.2.1 Flow Based Transmission Availability

The approach to defining how transmission is utilized remains one of the key conceptual differences between the Markets+ and EDAM frameworks. Though it is a little simplistic, as both designs have elements of “flow-based” and both have elements of “contract path”, these terms have been commonly used within the WMEG effort as shorthand to describe the proposals.

- EDAM – Generally based on a contract path methodology. Transfers are organized on EDAM BAA adjacencies using Energy Transfer System Resources (ETSRs) in a manner similar to the EIM methodology. In this way, it is transmission posted for sale on the OASIS of EDAM members which will be the primary starting point for determining the optimizable transmission available to the Market. In addition, the Market will utilize a power flow to determine flow on other constraints within an EDAM BAA and limit flow as needed to respect those constraints.
- Markets+ – Generally based on a flow-based methodology. The utilization of the Transmission system will be primarily based on the power flow solution for defined Network Model flowgates, “constraints”, regardless of transmission capacity posted for sale on a Markets+ member OASIS. In addition, the Market will allow certain carve outs to support modeling of specific Transmission Customer rights. The details of how this will be implemented and managed are still being defined.

Some WMEG members chose to study a sensitivity case in which the transmission assumptions were modified to estimate how benefits might change based on these differing methodologies for market use of transmission capacity. Those results were provided to the funding members.

Another topic explored by the Seams Task Force was evaluation of the characteristics, benefits, and limitations of the Rated System Path Methodology (MOD-029) and Flowgate Methodology (MOD-030) approaches used in the coordination and provision of transmission service. The Task Force noted that most Transmission Service Providers (TSPs) in the West operate on MOD-029. The Task Force also considered how these methodologies may be interpreted within an Energy Market.

In general, the Task Force concluded that while moving to MOD-030 is not a pre-requisite to EDAM or Markets+ participation, the MOD-030 approach does however align more closely with how the market engines for the security constrained economic dispatch work, would likely open up additional transmission capability, and would provide a methodology which is more consistent with how the full CAISO and SPP markets function. This may be especially true for participants in the EDAM due to the reliance on ETSRs which are primarily defined on a MOD-029 basis, currently.

MOD-030 is not simple or quick to implement. There may be more value in implementing MOD-030 on a regional basis and in a manner that is coordinated between neighboring TSPs. This approach may increase the complexity and effort of such an implementation effort, but it will be more efficient than each entity implementing it on their own. The MOD-030 conversion could be a valuable part of a Roadmap to enhance market benefits in the West and should be considered by the WMEG members. Additional details are included in Attachment A of the Seams White Paper.

4.2.2 *Transmission Rates*

The WMEG formed a Transmission Rate Sub-Group (TRSG) originally to discuss what analysis would be performed to examine the impact of developing and implementing a regional tariff, and in particular to evaluate de-pancaked transmission rates. Through this effort, the group analyzed issues which may arise in creating a future de-pancaked transmission service tariff, discussed how transmission service revenue distribution can mitigate issues, and reviewed how other regions have addressed these issues. In particular, the evolution of the SPP, CAISO, and MISO Tariffs were reviewed.

The group concluded that a regional tariff in a non-RTO footprint can provide de-pancaking benefits for its participants – such as expanded transmission availability, enhanced use of generation assets, and reduced administrative costs – while also serving as a stepping stone for future RTO participation. These benefits can also result in cost shifts and the subgroup developed a tool to analyze what the impacts might be. Additional information can be found in the *Transmission Rate Sub-Group White Paper*.

The TRSG suggests that WMEG members, either as a whole or a subset of members, could benefit from continued efforts to gather data and analyze results under de-pancaking scenarios and how revenue distribution might mitigate some of the impacts to member transmission service revenue. Additionally, the TRSG sees value in starting discussions on the other elements of a regional tariff, to both understand how those elements affect the members and transmission customers, but also to see if whether consensus could be reached on how to promote an acceptable method for use in a regional tariff.

4.2.3 Financial Transmission Rights

Neither Market designs is proposing a Financial Transmission Right (FTR) methodology for allocating transmission congestion revenue, choosing instead to leverage Open Access Transmission Tariff (OATT) rights-oriented approaches. Additionally, one of the main functions of the WMEG Straw Proposal phase was the execution of the CBS and there was not a practical approach to considering FTR benefits within the available time, funding, or other objectives of the CBS. Therefore, there is no specific recommendation on how or whether to pursue FTRs in the near term.

While considering the above, it is worth noting that FTRs are key elements of both the CAISO and SPP full markets.¹ FTRs are more consistent with the operation of the markets in general as they remove incentives for physical scheduling which may be inefficient. While there are a number of issues with FTR markets – gaming, underfunding, etc. – it is generally acknowledged that FTRs improve price discovery and access to hedging instruments by many parties.

Both SPP and CAISO, and especially their Market Monitors, have extensive experience with the benefits and challenges of FTRs and will have a role in evaluating the effectiveness of EDAM and Markets+ congestion and congestion revenue distribution approaches. WMEG members should work with their MOP / Market Monitor to further evaluate pros and cons of the EDAM and Markets+ methodologies relative to an FTR-style approach as well as conditions necessary to enable FTR usage.

4.3 BAA Consolidation

The WMEG formed a Consolidated Balancing Authority (CBA) Task Force to develop an understanding of CBA issues, discuss how CBA operations may impact legacy Balancing Authority (BA) operations, and review how other regions have formed their CBA. The CBA Task Force also reviewed various operational issues and transitional steps taken by others as their markets evolved. The Task Force members evaluated approaches for how the desired CBA functions may be implemented as the WECC prepares to transition to multiple regional organizations, MOPs, and potentially to an RTO.

Consolidation of Balancing Authority Areas can produce benefits by reducing costs through centralization of control center operations and support staff, compliance analysis and reporting for BA NERC standards, and support staff for tools, process, and applications. Additional benefits for Security Constrained Unit Commitment (SCUC) and Security Constrained Economic Dispatch (SCED) of energy and operating reserves can be realized under the different scenarios and market designs, including load diversity, resource optimization, and intermittent resource integration.

The CBS considered potential benefits from operating in a CBA by aggregating the Spinning Reserve, Non-Spinning Reserve, and Regulating Reserve requirements for each BAA to a level of a sub-region of each market footprint allowing zones to purchase reserves from their neighboring zones in the same market. The savings from this one adjustment were modest – on the order of \$10 million per year. This may understate the benefits as the reference case already has considerable flexibility. Additionally, this excludes some of the operating and compliance benefits.

Additional detail can be found in the *CBA Task Force White Paper* and the *Western Day Ahead Market Production Cost Impact Study*. Though CBA can take place outside of a Markets context, given the

¹ Specifically, Congestion Revenue Rights (CRRs) in CAISO and Transmission Congestion Rights (TCRs) in SPP.

current efforts in the region, further consideration of BAA consolidation may make more sense after implementation of Markets+ and EDAM and the footprints which develop for these Markets. The EDAM structure, in particular, depends on the BAA boundaries and, therefore, it may not be as logical to have utilities desiring to participate in different Markets to consolidate BAAs.

4.4 Greenhouse Gas

A Green House Gas (GHG) Task Force was formed to discuss how to model GHG attribution within the CBS. Through this forum, the Members discussed several different state GHG policies – especially those of California, Washington, and Colorado, but also other state and corporate goals. While the CBS addressed many aspects of GHG treatment in markets, such as a baseline market run, other complexities such as differential regional carbon pricing and different State objectives were not addressed.

Following the conclusion of the CBS modeling effort, the GHG Task Force considered whether WMEG would be a useful forum to further discuss regional coordination of GHG policies and how the Market Designs could accommodate them. While the group acknowledged that there is a lot of work to do to design market structures that support the achievement of State clean energy goals. Since, the Market Designs do not create barriers to regional market cooperation, and observe the realities of operating a regional electric grid, at this time, the group concluded that the best forums for that work were with Regulators and through the Market Operator-facilitated design efforts, rather than through WMEG.

4.5 Resource Adequacy and Generation Investment

Another item which is included in the WMEG Principles, and which is critically important, is Resource Adequacy (RA). This was identified in the Roadmap Elements as:

- Resource Adequacy / Capacity Market (#19)

4.5.1 Resource Adequacy

Resource Adequacy is administered by many existing RTOs, but is not a FERC requirement of an RTO. It appears, as currently proposed, that EDAM will continue to use a shorter-term concept of Resource Sufficiency (RS) to support the initial Day-Ahead Market. The Markets+ Service Offering anticipates a common RA requirement as a prerequisite to Market participation, though the details of this implementation are part of the Phase 1 scope.

Another regional effort, the Western Resource Adequacy Program (WRAP), has recently received FERC approval of its Tariff to establish a regional RA framework. Many WMEG members are participating in WRAP and continue to progress towards a binding program which is targeted to begin as early as 2025. As of June 2023, no primarily California utilities are identified by the Western Power Pool (WPP) as WRAP participants.

It appears likely that there will be WRAP members who participate in EDAM and WRAP members who participate in Markets+. The recommended next steps include collaborating with Western Power Pool to ensure WRAP is integrated/accommodated by the Market designs, including potentially across a Market Seam.

4.5.2 Generation Investment

As it relates to the CBS, members considered estimating the value of a reduction in generation investment costs which are a major component of benefits identified in other studies and by RTOs when they assess benefits. However, while there was consensus that the potential savings were material, there was not consensus on how to achieve them or whether to study them.

It was acknowledged that the reduction in investment in generation capacity which can be achieved with a larger footprint, and the related rules which bind members together such that they can rely on each other for capacity, are likely large. In other studies, the reduction in installed generation capacity costs have provided between two and ten times as much cost savings as the dispatch cost savings. For example,

- The State Led Study Market Studies prepared by Energy Strategies showed a two-market day ahead option, relative to a BAU case with only real-time markets, could yield \$85 million in adjusted production cost savings and \$416 million in capacity savings.
- The 2016 Senate Bill 350 Study by Brattle and E3 on the impact to California of a regional CAISO-led Western power market identified \$104 to \$523 million in adjusted production cost savings versus \$680 to \$800 million in annual capital cost investment savings related to renewable procurement, plus \$120 million in annual capacity savings due to load diversity.
- MISO's 2022 Value proposition estimates that the MISO market facilitates \$890 to \$923 million in Energy and Ancillary Services savings compared to \$1,942 to \$2,866 million in Resource Capacity Sharing plus \$409 to \$479 in Renewable Resource Optimization, which is procurement related.

Ultimately, the CBS did not attempt to create a new estimate of benefits which might be derived from generation investment savings.

5 Roadmap: RTO Functionality

The original objective of WMEG was to explore regional collaboration on Market and Non-Market functions, features, and characteristics up to and including a Regional Transmission Organization (RTO). In addition to the potential regional efforts described in the preceding sections, two additional functions would be required to meet the minimum criteria of an RTO.

- Planning and Expansion (#11)
- Regional Transmission Planning (#20)

Membership in an RTO remains an objective of some WMEG members.

SPP is in the process of Western members pursuing their decisions to integrate into their version of its RTO functionality via the RTO West proposal. Some WMEG members may pursue RTO objectives via that offering. It has been discussed that CAISO might also attempt to formulate an RTO expansion construct in the future, though this does not appear to be as far along as the SPP RTO West effort. CAISO

Governance was consistently cited as a concern, as has been the case in many forums over the past several years, which could prevent many members from joining an RTO operated by CAISO.

In addition, to SPP and CAISO offerings, WMEG considered a hybrid structure – the “Thin RTO” – which would allow members to take market services from either SPP or CAISO while certain Tariff and Transmission Planning and Administrative functions would fall under a new organization.

Figure 1 – Conceptual “Thin RTO” Diagram



This new entity (or an existing entity with an expanded mission) would take on the characteristics and functions of an RTO that are not provided by a MOP. Members of this RTO would continue to receive market services from CAISO or SPP. While unique in the US, the concept might allow members to achieve some of the non-Market objectives through an independent organization (i.e. not SPP, not CAISO). Given the significant challenges in achieving the Thin RTO, WMEG prioritized other work during this Phase.

The next step to addressing RTO formation will be addressed after MOP Day-Ahead markets are implemented and their footprints take more shape. Should the SPP or CAISO offerings for Markets prove durable, but their RTO service offerings inadequate, reconsideration of the Thin RTO could be a possibility.

6 Next Steps

Most or all members of WMEG appear to have a viable next step to participation in a Day-Ahead Market which will deliver benefits – either the SPP RTO West initiative or the initial Market options offered via Markets+ or EDAM, pending FERC approval.

As it is likely that not all members will join a single Market, coordination between the Market footprints will be needed. Additionally, near-term Seams issues to address include interoperability with WRAP and the Markets as well as considerations as to how WRAP will be enabled across Market Seams. Enabling coordination between the Market Operators on cross-market Seams also appears to be worthwhile in the short term. Additional Seams topics, such as a single West wide transmission planning entity are likely in the more distant future.

Enabling relaxation of transmission limitations appear to be useful to address immediately after Market implementation, especially options for relaxing the System Rated Path methodology likely at EDAM

initiation, potentially via MOD-030. Other transmission enhancing options, such as rate de-pancaking could follow after the footprints are more established.

Consolidation of Balancing Areas is another area which may be useful to explore after the Market footprints stabilize and members can coordinate with the MOPs on how Market features can be incorporated.

For those looking for an RTO Tariff or enhanced regional Transmission Planning, except for those pursuing SPP RTO West, those functions may be further in the future.

7 Abbreviations

ASM	Ancillary Service Market
ATC	Available Transfer Capability
BA	Balancing Authority
BAA	Balancing Authority Area
CAISO	California Independent System Operator
CBA	Consolidated Balancing Authority
CBS	Cost Benefit Study
CRR	Congestion Revenue Rights
DA	Day-Ahead
DAM	Day-Ahead Market
E3	Energy and Environmental Economics
EDAM	CAISO Extended Day-Ahead Market
EIM	Energy Imbalance Market
EIS	Energy Imbalance Service
ETSR	Energy Transfer System Resource
FERC	Federal Energy Regulatory Commission
FTR	Financial Transmission Right
GHG	Green House Gas
Markets+	SPP Markets Plus
MISO	Midwest Independent System Operator
MOD-029	Rated System Path Methodology
MOD-030	Flowgate Methodology
MOP	Market Operator
OASIS	Open Access Same-time Information System
OATT	Open Access Transmission Tariff
RA	Resource Adequacy
RS	Resource Sufficiency
RTO	Regional Transmission Organization
SCED	Security Constrained Economic Dispatch
SCUC	Security Constrained Unit Commitment
SPP	Southwest Power Pool
TCR	Transmission Congestion Right
TRSG	Transmission Rate Sub-Group
TSP	Transmission Service Provider
TTC	Total Transfer Capability
WECC	Western Electricity Coordinating Council
WEIM	CAISO Western Energy Imbalance Market
WEIS	SPP Western Energy Imbalance Service
WMEG	Western Markets Exploratory Group
WPP	Western Power Pool
WRAP	Western Resource Adequacy Program