

**RTO West Stage 2 Development Process
Scheduling Content Group
Scheduling Small Group**

Working Document
as of February 25, 2001

Calendar

February 22	5:00 p.m. (PST)	All assignments due	
February 26	10:00 a.m. to 5:00 p.m.	Scheduling Small Group Meeting	PDX Conference Center Multnomah B

Assignments from 2/9 Meeting

Responsible Person	Task	Status
Shelly Richardson/Kathy Carlson	Review DSTAR scheduling coordinator agreement/make list of what might have application to RTO West	
Lauren Nichols	Review CAISO scheduling coordinator agreement/make list of what might application to RTO West	Completed 2/20/01 (<i>see</i> Attachment K)
Rick Paschall	Review Desert Star scheduling appendix/make list of what might have application to RTO West	Completed 2/20/01 (<i>see</i> Attachment B)
Kieran Connolly	Review CA ISO scheduling appendix/make list of what might have application to RTO West	
Fran Halpin	Review Control Area Task Force Report/make list of what might have application to RTO West	(<i>See</i> Attachment D)
Lisa Grow	Develop a list of input needed for WMIC work	Completed (<i>see</i> Attachment C)
Kristi Wallis	Collect Stage 1 scheduling information	Completed (<i>see</i> Attachment A)
Everyone	Review Stage 1 material (including draft scheduling coordinator concepts)/identify issues	Everyone is to come prepared to identify issues at 2/26 small group meeting
Chris Reese	Determine volume of scheduling requirements based upon proposed congestion management model	
Kurt Conger/Dave Perrino	Develop list of areas of potential conflict between RTO West and NERC (electronic scheduling)	Completed (<i>see</i> Attachment E)
Dave Perrino	Check with Don Badley for his input regarding NERC	Completed
Kristi Wallis	Report back on scope of Stage 2 treatment of losses	

Stage 2 Work

- A. Scheduling Provisions

- B. Scheduling Coordinator Tariff Provisions (Appendix)

- C. Scheduling Coordinator Agreement

- D. Losses

APPENDIX

Attachment A	Stage 1 Congestion Management Scheduling Provisions (from 9/6/00 Congestion Management Paper)
Attachment B	Review of DSTAR Scheduling Appendix
Attachment C	Needs for WMIC Discussion
Attachment D	Materials re Control Area Task Force Report
Attachment E	Materials re NERC
Attachment F	Materials re NERC
Attachment G	8/31 Outline of Concepts for the Scheduling Coordinator Tariff Provisions
Attachment H	Imparato Comments on the 8/31 Outline of Concepts for the Scheduling Coordinator Tariff Provisions
Attachment I	Stage 1 Draft Scheduling Coordinator Appendix
Attachment J	Stage 1 Draft Scheduling Coordinator Agreement
Attachment K	CA ISO's Tariff Treatment of Scheduling Coordinator Issues

Attachment A

Stage 1 Congestion Management Scheduling Provisions (from 9/6/00 Congestion Management Paper)

5. Day-Ahead Scheduling Activities

- Market Participants (acting as, or through, Scheduling Coordinators) will submit Balanced Schedules (resources, demands and related transmission rights (FTRs, RTRs or NTRs) obtained from allocation, auction, or secondary market purchases) to the RTO, submit self-provided ancillary services to the RTO, notify the RTO of resources they will use for self-tracking, and submit bids to sell ancillary services and real-time Balancing Energy to the RTO (i.e., capacity bids and energy redispatch bids from resource portfolios).
- A Scheduling Coordinator may, at its option, submit its schedule in two parts: a Balanced Schedule and a Proposed Schedule. A Balanced Schedule is a schedule for which the Scheduling Coordinator has submitted all of the transmission rights (FTRs, RTRs or NTRs) associated with the schedule's deemed uses of the flowpaths. A Proposed Schedule is a schedule that is balanced in all respects except that the schedule does not include all of the necessary transmission rights. A Proposed Schedule is deemed to be a bid for NTRs at a stated price (in the absence of a submitted bid dollar value, the RTO will deem the SC's bid price to be zero dollars).
- The rationale for permitting schedules to be submitted without transmission rights is to enable the SCs to acquire NTRs on uncongested flowpaths in the case where such NTRs can be made available by the RTO because Balanced Schedules would create scheduled flows in the opposite direction. However, because the RTO will not become involved in the process of allocating or brokering transmission rights to SCs, if the sum of the NTRs that the RTO can make available after Balanced Schedules have been submitted is less than the sum of the NTRs desired by SCs who submitted Proposed Schedules, the RTO will reject the Proposed Schedules of those SCs who were not allocated sufficient NTRs to cover their schedules. The RTO will allow those SCs whose Proposed Schedules were rejected to alter those schedules or acquire the necessary rights and resubmit them as Balanced Schedules.

The Day-Ahead Scheduling Process is described below. The timeline is provided for discussion purposes only and will be finalized after the October 15, 2000 filing.

The Day-Ahead Scheduling Process (DASP) is the primary process through which all uses of the Grid - including the scheduling of energy, capacity, transmission rights and Ancillary Services - takes place.

Two Days Ahead of the Operating Day

1600: The RTO publishes on the RTO Website (the Website is the replacement for the OASIS in the RTO world) the forecasted system conditions for the Operating Day.

The RTO notifies the market participants of the quantities of additional FTRs that the RTO will release to the marketplace for the Operating Day (The release mechanism could be an auction or could be a release into a certified external-to-the-RTO electronic exchange).

1625: Deadline for submittal of FTR bids from the market participants to the RTO.

1630: The RTO notifies the winning FTR bidders.

One-Day Ahead of the Operating Day

0600: The RTO updates its forecast of system conditions and publishes this and any additional information regarding the status of the RTO Grid on the RTO Website.

0900: Each SC who holds FTRs must notify the RTO of the SC's intent to schedule the use of such FTRs for the Operating Day by including those FTRs in the SC's 1100 schedule submittal in the Day-Ahead Scheduling Process. If the SC informs the RTO that the SC does not plan to schedule the use of the FTRs in the Day-Ahead Scheduling Process, the RTO will make the associated capacity available to other SCs on a recallable basis by releasing RTRs, and the SC will preserve its right to schedule the use of the FTR in the Schedule Adjustment Process. If the SC does not submit such notification to the RTO, then the SC must schedule the use of the FTRs at 1100; and if the SC does not schedule the use of the FTRs at 1100, the RTO will make those FTRs available to other SCs and credit the proceeds from such a release against the RTO's uplift charges.

0905: Unused FTRs are released to SCs by the RTO through the RTO's auction of Recallable Transmission Rights (RTRs) for the Operating Day. In this auction, the RTRs will be sold to the highest bidders, with all winning bidders paying the RTR clearing price for the flowpath. SCs who acquire RTRs must schedule the use of the RTRs in the Day-Ahead Scheduling Process. If RTRs need to be recalled by the RTO, the RTO will recall them in the order of lowest bid price to highest bid price. (Through this mechanism, the RTO will have established a queue for recall - rather than a requirement to cut all RTRs pro rata - and SCs will have obtained the ability to establish RTRs of higher and lower recall quality.) The RTR clearing price for the flowpath - the price which will be charged to each SC whose RTR has not been recalled - will be determined after the recall deadline for the RTRs and will be equal to the bid price of the last-recalled RTR. (If no RTRs were recalled the price will be equal to the highest losing bid price, or zero in the event that demand for the RTRs was less than the quantity made available by the RTO.) The proceeds of the RTR auction will be allocated to those FTR-holders who made their rights available at 0900 and who did not subsequently exercise the recall rights associated with those FTRs.

The RTO will release NTRs at several times during the scheduling process as the NTRs are made available to the RTO - for example, at 1600 Two Days Ahead, here at 0905 Day-Ahead and at 1205 Day-Ahead. The NTRs that can be made available at 0905 are the NTRs that the RTO deems it prudent to release from the capacity that the RTO has reserved in order to honor non-converted Pre-Existing Contracts (i.e., the capacity that has been reserved as NCRs - Non-Converted Rights).. SCs who acquire NTRs must schedule the use of the NTRs in the Day-Ahead Scheduling Process at 1100. NTRs can be recalled by the RTO at any time (even during the Operating Hour), so - as is the case with non-firm rights today - the SC who uses NTRs must be prepared for such recall.

At Operating Hour, all NTRs will be placed in a single stack regardless of when they were acquired. If NTRs need to be recalled by the RTO, the RTO will recall them in the order of lowest bid price to highest bid price. (Through this mechanism, the RTO will have established a queue for recall - rather than a requirement to cut all NTRs pro rata - and SCs will have obtained the ability to establish NTRs of higher and lower recall quality.)

In the NTR auction, the NTRs will be sold to the highest bidders, with all winning bidders whose NTRs are not recalled by the RTO paying the market clearing price for NTRs. The market-clearing price of the NTRs will be determined after the Operating Hour, and will be equal to the bid price for the last NTR that was recalled by the RTO. (If no NTRs were recalled by the RTO, the market clearing price will be calculated by determining the highest losing bid in each of the NTR release processes and taking the lowest of these highest losing bids. (Note that this also means that the market-clearing price will be zero in the event that demand for the NTRs was less than the quantity made available by the RTO.) The proceeds of the NTR auction will be credited against the RTO's uplift charges.

0910: The RTO notifies the winners of the RTR auction and posts any unsold RTRs on its Website, where they can be acquired by the SCs on a first come-first served basis.

The RTO notifies the winners of the NTR auction and posts any unsold NTRs on its Website, where they can be acquired by the SCs on a first come-first served basis. (SCs who acquire NTRs on this basis must schedule the use of the NTRs in the Day-Ahead Scheduling Process.)

1100: SCs submit their Balanced Schedules and their offers of Interconnected Operations Services to the RTO's IOS procurement process.¹

SCs submit their Proposed Schedules (i.e., schedules submitted without transmission rights. Each SC may also specify, in its Proposed Schedules, the prices at which it is willing to purchase any additional NTRs that the RTO will, at 1205, make available for the Operating Day. (If no prices are specified, the RTO will interpret the SC's price to be zero.)

"Balanced Schedules" include: (i) for each Congestion Zone, injections equal to withdrawals plus/minus trades with other SCs, all adjusted for transmission losses; (ii) accompanying FTRs, RTRs and NTRs; (iii) information specifying the IOS resources that the SC will use under "self-provision" and "self-tracking."

If the SC's schedule does not include all of the necessary transmission rights, the RTO will assume that the SC wishes to acquire those rights as NTRs that the RTO will release at 1205. If the RTO ultimately makes such rights available to the SC at 1205, the SC's schedule will then be deemed to have been a Balanced Schedule. If the SC is not allocated such NTRs by the RTO at 1205, then the SC must rebalance and resubmit its schedule by 1230; otherwise the SC's schedule will be rejected as unbalanced at 1230.

add a process for the release of FTRs which have neither been released as RTRs at 0900 nor been scheduled at 1100.

An IOS bid that is submitted to the RTO is deemed to be a bid to deliver the IOS in the zone in which the IOS is located. Therefore no FTRs need to be attached. However, the SC may also associate transmission rights with the ISO bid, enabling the SC to deliver the IOS in alternative zones.

¹ Note regarding IOS bids: The intention is for the RTO to procure its IOS from an external-to-the-RTO ancillary services exchange. Therefore, this is simply a deadline by which time the SCs must submit their bids to sell IOS to such an exchange, if such bids are to be considered by the RTO in its procurement process.

- 1130: The RTO validates the Balanced Schedules and IOS bids that were submitted by the SCs² and gives the SCs an opportunity to correct data errors and resubmit their information to the RTO.
- 1200: Close of the schedule validation process. SCs must have corrected invalid schedules (for Balanced Schedules, invalid schedule implies imbalance between generation, losses, load, and transmission rights; for Proposed Schedules, invalid schedules are the same as for Balanced Schedules but there is no checking for transmission rights) by this time and resubmitted them to the RTO. If they have not done so, the RTO will use its administrative rules (to be developed) to balance the SC's schedule (through reductions in generation, load, etc.).

1200: The RTO conducts its IOS procurement process (covered by the Ancillary Services WG). Note that if the RTO chooses to move the delivery point to another zone, the RTO must procure the FTRs needed to move the IOS to the other zone.

- 1205: SCs are notified of the selections of IOS resources.

The RTO releases additional NTRs to the SCs. The additional NTRs are those that can be made available because of: (i) counterflows that have been scheduled by SCs (through the scheduled use of FTRs and RTRs), (ii) the scheduling of Operating Reserves (Spinning, Non-Spinning and Replacement) across flowpaths; and (iii) capacity that remains reserved by the RTO for the purpose of honoring non-converted Pre-Existing Contracts. If the quantities of NTRs that the RTO can make available at this time are sufficient to enable the acceptance of all of the Proposed Schedules, the RTO will allocate the NTRs to the Proposed Schedules and the Proposed Schedules will become Balanced Schedules. However, if the quantities of NTRs that the RTO can make available at this time are insufficient to meet the demands for all of the NTRs desired by SCs who submitted Proposed Schedules, the RTO will reject all of the Proposed Schedules and release the NTRs through the process described below.

The releases of NTRs will be made to SCs based on the price bids they submitted with their Proposed Schedules at 1100. The NTRs will be sold to the highest bidders, with all winning bidders paying the NTR clearing price for the flowpath. SCs who acquire NTRs must schedule the use of these NTRs at 1230 in the Day-Ahead Scheduling Process. If NTRs need to be recalled by the RTO, the RTO will recall them in the order of lowest bid price to highest bid price. (Through this mechanism, the RTO will have established a queue for recall - rather than a requirement to cut all NTRs pro rata - and SCs will have obtained the ability to establish NTRs of higher and lower recall quality.) The NTR clearing price for the flowpath - the price which will be charged to each SC whose NTR has not been recalled - will be determined after the Operating Hour and will be equal to the bid price of the last-recalled NTR. (If no NTRs were recalled the price will be equal to the highest losing bid price, or zero in the event that demand for the NTRs was less than the quantity made available by the RTO.) The proceeds of the NTR auction will be credited against the RTO's uplift charges.

- 1230: Between 1205 and 1230, SCs who acquired NTRs through the process described above are required to incorporate the NTRs into their schedules and resubmit their schedules to the RTO. SCs who did not receive NTRs must update their schedules to be consistent with their final portfolios of rights (FTRs, RTRs and NTRs).

The 1230 schedule submittal must also include the SC's resource-specific Ancillary Services schedules. (Prior to this time, the SC was permitted to specify its resources on a "virtual resource" or "portfolio" basis. Note that after this time, the SC may still change its schedules through the Schedule Adjustment Process, described elsewhere.)

² Note: Validation of IOS bids is performed simply to ensure that there is no double counting of resource capacity.

At 1230, the RTO will perform final validation of each SC's schedule. The RTO will use its administrative rules (described elsewhere) to balance the SC's schedule (through reductions in generation, load, etc.).

- 1300: The RTO identifies the schedule adjustments required to eliminate residual congestion. (This congestion management process - which is primarily based on the use of voluntarily-submitted incremental/decremental bids and transmission rights buyback - is described elsewhere.)
- 1315: The RTO informs each SC of the SC's final day-ahead schedule.
- 1400: The RTO coordinates schedules and flows with other Control Area Operators.
- 1400: Each SC submits NERC/WSCC tags.
- 1500: Between 1400 and 1500, the RTO performs Control Area checkout with other Control Areas, and completes its Operating Plan for the Operating Day (including determining the resource stacks for Balancing Energy and Operating Reserves).

6. Schedule Adjustment Activities (Post-Day-Ahead Scheduling Process)

The Schedule Adjustment Process (SAP) is an ongoing, continuous process, within which the RTO shall process SCs' requests for schedule changes as they are received by the RTO, on a first-come, first-served basis. This process begins at the close of the Day-Ahead Scheduling Process and continues until X minutes prior to the start of the Operating Hour (where X is currently contemplated to be between 60 - 120). During this period the SCs may adjust their portfolios (demands, supply and trades) and submit schedule changes (incremental schedules) with accompanying transmission rights to the RTO.

SCs must submit Balanced Schedules with FTRs, RTRs or NTRs. Any schedule that is not balanced will be rejected by the RTO.

An SC's request to change Generating Unit output levels, to re-designate resources which provide Ancillary Services, or to change import or export schedules will be subject to RTO approval, which shall be granted provided that: (i) there is sufficient time for the RTO to evaluate the impacts of the proposed change; and (ii) the proposed change would neither increase Congestion nor otherwise create a Grid security problem.

G needs to address RTO West unique real-time and near real-time scheduling requirements.

The RTO will receive, validate and incorporate continuous adjustments to schedules submitted by SCs as long as no new congestion is created, update the RTO's operational models and operating plans, respond to contingencies which result in decreases in transfer capability or otherwise create congestion, and procure any additional IOS resources required using call contracts obtained through an ancillary services exchange.

An alternative under consideration is that the RTO would accept schedules that created new residual congestion, but the SC would be responsible for paying the cost of eliminating that congestion.

External Market Exchanges will continue to operate as described under "Mid-Term Activities." (Note: these are voluntary arrangements. No external Market Exchanges are required.)

Throughout the Schedule Adjustment Process, the RTO will continuously update load forecasts and grid ancillary services requirements, receive and validate Balanced Schedules from Scheduling Coordinators, calculate loading on flowpaths and other Grid facilities, release unused capacity (as RTRs and NTRs), determine if any residual congestion exists and eliminate such congestion through the use of redispatch bids and/or buyback of FTRs, develop the Operating Plan for the upcoming day (including determining the resource stacks for Balancing Energy and Operating Reserves).

The details of the Schedule Adjustment Process will require further development.

7. Real-Time Activities (from X minutes prior to the Operating Hour through the Operating Hour)

Scheduling Coordinators that have been selected to provide ancillary services will respond to control signals from the RTO (details - permissive price or response to RTO calls on Balancing Energy stack need to be defined). SCs may make arrangements, bilaterally or through Market Exchanges, for real-time changes to schedules and submit them to the RTO for approval.

External Market Exchanges will facilitate real-time exchanges between SCs. (Note: these are voluntary arrangements. No external Market Exchanges are required.)

The RTO will receive, validate and incorporate continuous adjustments to schedules submitted by SCs as long as no new congestion or operational problems are created, receive real-time metering data and respond to energy needs through dispatch of the Balancing Energy stacks, and clear congestion using redispatch procedures, including the dispatch of resources in the Balancing Energy stacks.

real-time processes are still to be developed. Currently performed activities, such as tagging, need to be considered when developing the real-time processes. The above paragraph is representative of activity within the period.

8. Post-Real-Time Activities (Settlement Activities)

The RTO will receive validated settlement-quality data, including metered injections and withdrawals, and transmission and generation availability. The RTO will calculate zonal Balancing Energy prices based on the marginal bid for delivery of energy dispatched by the RTO in the zone, determine each SC's energy imbalances for each Congestion Zone (energy imbalance equals actual or deemed injections minus actual or deemed withdrawals), send preliminary imbalance account statements to each SC, and settle with each SC for final net Balancing Energy payments and for ancillary services. The RTO will also accumulate costs for resolving residual congestion for future use in updating flowpaths.

Scheduling Coordinators are responsible to provide validated settlement-quality meter data to the RTO. SCs will receive imbalance accounting information from the RTO, trade their imbalances in with other Market Participants, pay the RTO for any net energy deficiencies (or receive payment for excess energy provided to the RTO), and pay for ancillary services obligations that were not met through self-provision or self-tracking.

External Market Exchanges may facilitate the trading of energy imbalances among SCs.

Attachment B

Review of DSTAR Scheduling Appendix (R. Paschall)

Subject: Re: Comments on Desert Star Appendix B: Scheduling
Date: Tue, 20 Feb 2001 10:49:02 -0800
From: rpaschall@pngc.com
To: kristiwallis@sprintmail.com

Distill/Collapse of DSTAR Scheduling Table of Contents

6. Day Ahead Scheduling Process
2. Schedule Adjustment Process
3. Validation of Scheduling Data Submitted by SC's
4. Confidentiality of Data
5. Publication of RTO West Data on RTO Website
6. Temporary Deviations from Scheduling Procedures

I feel relatively sure that we will need to address all six of these topics.

Depending on exactly how we address each of these topics will necessitate similarities or differences btw our table of contents and that of DSTAR. This is meant to address your request 'to get my initial thoughts on whether the DSTAR's approach on these scheduling matters make sense for RTO West'. In other words, I don't think we can say if we agree or disagree with DSTAR's approach for scheduling until we flesh out AS, Congestion, and other big issues.

Attachment C

Needs for WMIC Coordination (L. Grow)

Subject: RE: RTO West/SCHD -- 2/26 Meeting of Scheduling Small Group
Date: Fri, 23 Feb 2001 11:19:14 -0700
From: "Grow, Lisa" <LGrow@idahopower.com>
To: "'kristiwallis@sprintmail.com'" <kristiwallis@sprintmail.com>

Hi Krisi-

I have talked with the WMIC Scheduling Group and basically what we are looking for is a detailed scheduling process with full descriptions of activities and whether or not the timing of these activities are flexible or not. All the RTOs should come back with the same type information so that we can take another run at lining the activities and timing up between RTOS. Is that too broad?

Lisa

Attachment D

(Materials from Fran Halpin re Control Area Task Force Report)

Fran is reviewing the CACTF (Control Area Task Force Report) model and white paper, and will present a detailed summary at the February 26th Scheduling small group meeting. Until then, Fran has prepared and will distribute directly to the Scheduling Content Group a spreadsheet with highlights of the various functional units and the responsibilities associated with them. He has also developed a short slideshow containing an example of how the pieces fit together for scheduling. Finally, he has also prepared the CACTF diagram of the model itself.

Attachment E

Subject: NERC CACTF / RTO West
Date: Tue, 20 Feb 2001 09:55:08 -0800
From: "Dave Perrino" <dperrino@apx.com>
To: <Bmspeckman@aol.com>, "'Kristi M. Wallis'" <kristiwallis@sprintmail.com>
CC: <don.badley@nwpp.org>, <lgrow@idahopower.com>

Kristi/Barney,

Attached to this message are my thoughts of how the NERC CACTF functions would fit in the RTO West paradigm. The only real place for significant debate would be the Interchange Authority, but the rest should be reasonably straight forward.

Assume the RTO will have the following characteristics:

Security Authority, in charge of overall grid integrity.

Balancing Authority, in charge of interchange implementation, ramping, scheduling etc as well as ancillary service provisions.

Transmission Service Provider, in charge of ATC (OTC) calculations and offers transmission to the participants.

The Scheduling Coordinator can be, but does not have to be an Interchange Authority. The Interchange Authority (IA) function can be done independently and any load or generator can use any IA, just as they can select any scheduling coordinator.

There is some question in my mind about RTO to RTO interchange verification and how that would be accomplished.

Please feel free to comment on this information. Hope this helps.

Kind Regards,

Dave

David F. Perrino

Barney/Kristi,

I am forwarding to you one set of comments I had submitted to Don Benjamin of NERC regarding the NERC Control Area Criteria Task Force (CACTF) white paper. I believe they have missed a piece and that is what the text below refers to.

I am working on finishing up the rest of what I owe you and should be sending that out soon.

Kind Regards,

Dave

-----Original Message-----

From: Don Benjamin [mailto:don.benjamin@nerc.com]
Sent: Friday, December 01, 2000 6:47 AM
To: dperrino@apx.com
Cc: cacfr
Subject: RE: CACTF White Paper comments

Dear Dave:

Thanks for your suggestions. These are the kinds of thoughts I was looking for.

I'm going to forward your note to the CACTF Task Group who is working on the Reliability Model. We discussed this at one of the fall workshops as well.

don.

-----Original Message-----

From: Dave Perrino [mailto:dperrino@apx.com]
Sent: Thursday, November 30, 2000 10:49 AM
To: don.benjamin@nerc.com
Subject: CACTF White Paper comments
Importance: High

Don,

Before I comment on the CACTFs' work I'd like to say that I am very pleased to see NERC take on the difficult task of essentially "re-creating" itself and its policies to meet the needs of the changing landscape of deregulation. The white paper is an excellent example of successful implementation the NERC process and consensus building. I sincerely hope my comments are useful to this process.

The comments are based on the document entitled "cactfwpv2-0010.pdf":

Page 7, "Defining Functions, not Organizations": I would like the CACTF to consider adding "Market Exchange Operator" The distinguishing features being, FERC jurisdictional (Like APX and CalPX), no position taken in any market, energy ancillary service or transmission (unlike that of a PSE, LSE or Power Marketer), does not own any physical assets (unlike that of a Generator) and may independently provide functionality (Like the CalPX, but unlike PJM or NYISO, whose "exchanges" are imbedded within the ISO entity).

While I realize that much of the CACTF work revolved around pre-deregulation Control Area functions, identifying them and breaking them out one-by-one,

what exchanges do today either was not facilitated (due to lack of wholesale market developments) or may be related, loosely, to the old Power Pool paradigm (NYPP would be one example, where the NYPP participants would supply the Power Pool with buy/sell quotes each hour and the Power Pool would match them based on the business rules of the time).

Page 14, in "Operating Functions" As for where a Market Exchange Operator "Box" would sit in the diagram, I am struggling a bit. I can see energy markets, but since the exchange is independent it would not be colored green. It may have some of the features of the Interchange Authority and some of the Transmission Service Provider as well. It could be combination of Service and Operating functions, but in my mind it should be a distinct function/entity.

Page 48, "Generator" under Responsibilities, "Power Exchanges" is included. If a separate category is not defined I believe this reference should be added under PSE and LSE. All three of these entities participate, to some degree in the wholesale purchasing and selling of energy, ancillary services and transmission.

If the CACTF decides to add the new function of Market Exchange Operator below is how I would draft the "functions definition section"

Market Exchange Operator
Service Function/Operating Function

Definition means a FERC jurisdictional entity which is not a Generator or Power Marketer and which operates one or more trading mechanisms through which Market Participants and other Persons can on a non-discriminatory basis buy, sell or trade contracts for power, transmission rights or Ancillary Services.

Criteria and Compliance for Organizations performing this function
NERC and FERC-certified
Must have NERC certified Operators
Dependent upon regional practices and requirements, *may be Independent of Transmission and Merchant Functions (probably does not take a position in region operating)
Subject to Code of Conduct
Monitored for compliance by NERC and FERC

Responsibilities
Comparable to those of Interchange Authority
May manage transmission markets for Transmission Service Providers (OASIS)
May manage ancillary service markets for Balancing Authority

Functional Relationships
Interacts with the Balancing Authority to post ancillary service requirements and facilitate markets for acquisition and scheduling of these services.
Interacts with Transmission Service Provider (TSP) to post rights availability as determined by the TSP. Also manages rights auction, ownership tracking and updates capability values as deemed appropriate.
Interacts with Generators, PSEs, LSEs and other market participants to provide services for matching, contracting and posting of available products in region.

Relationships - Boundaries

May be region specific (depending upon the type of market this relationship may not exist)

May include multiple Transmission Owners/Service Providers (this depends upon the configuration of the RTO or region the exchange is established)

Must include more than one generator

Must include more than one LSE

May receive interchange schedules from one or more IAs

May operate within a single SA

* The word may is used in many of the bullets because what a market exchange operator does is strictly dictated by the region in which an exchange would be established. Hopefully however this should give the reader the general concept of where the exchange would fit in the new paradigm.

I hope you find these useful in your ongoing discussions. I'd be happy to discuss these concepts with you further if you'd like.

Kind Regards,

Dave

David F. Perrino
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Grid Management Services
Director Market Development - West
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Attachment F

Carl Imperato's Input re NERC Requirements

. . . It would be almost incredible if the SC concept that is being contemplated in DSTAR and RTOWest (as well as used in CAISO) did not meet the NERC requirements for (i) security and (ii) independence. (As to the latter, we may exceed NERC's requirements, but that is not inconsistent.)

The only area in which I believe there could be conflict is in the realm of the SC that wants to do "Self-Tracking". In that case, we need to ensure that the SC is not given preferential access to grid data or grid facilities. But I think that this needs to be addressed in the context of refining the Self-Tracking concept, not in the basics of the definition of the SC concept.

Am I wrong? Have you uncovered anything that indicates that the RTOWest/DSTAR/CAISO SC concept would run afoul of the NERC requirements? And if so, could you let me know precisely what the problem is?

Thanks,

Carl Imperato

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Attachment G

Outline of Concepts for the Scheduling Coordinator Tariff Provisions (as discussed at the August 31 GIA Subgroup Meeting)

The basic elements to be covered by the Scheduling Coordinator documents are as follows:

- All scheduling on the RTO West Transmission System must be through a Scheduling Coordinator;
- A Scheduling Coordinator must meet both technical requirements and creditworthiness requirements as described in the Scheduling Coordinator tariff appendix;
- A Scheduling Coordinator does not have to be a “Eligible Customer” under the RTO West Transmission Tariff, but can schedule only on behalf of Eligible Customers; also, an Eligible Customer does not have to qualify as a Scheduling Coordinator to be able to purchase and hold FTRs or to otherwise establish a relationship with RTO West as a Transmission Customer;
- There can be no more than one Scheduling Coordinator for each meter, and each meter at any Point of Interconnection between the RTO West Transmission System and any interconnected facilities must have a Scheduling Coordinator;
- The Scheduling Coordinator tariff provisions will make it a condition of the Scheduling Coordinator’s ability to schedule to any Points of Interconnection serving load within RTO West’s metered Control Area boundaries that the facilities to which the Scheduling Coordinator wishes to schedule must either be subject to a valid, Pre-existing Interconnection Agreement or an RTO West Load Integration Agreement (and, the Scheduling Coordinator will be subject to penalties, and if necessary and subject to fair process through FERC, de-certification as a Scheduling Coordinator if these obligations are not fulfilled);
- The Scheduling Coordinator tariff provisions will make it a condition of the Scheduling Coordinator’s ability to schedule energy, IOS, or Ancillary Services from any Generation Facility within RTO West’s metered Control Area boundaries that the Generation Facility must either be subject to a valid, Pre-existing Generation Agreement or an RTO West Generation Integration Agreement; and, if there is a valid, Pre-existing Generation Agreement, RTO West must also have received instructions concerning how to operate in compliance with the valid, Pre-existing Generation Agreement (and, the Scheduling Coordinator will be subject to penalties, and if necessary and subject to fair process through FERC, de-certification as a Scheduling Coordinator if these obligations are not fulfilled);

- RTO West will have audit rights to verify that Scheduling Coordinators are complying with their obligations under the Scheduling Coordinator tariff provisions;
- Each Scheduling Coordinator is obligated to submit balanced schedules and to purchase or provide for all Ancillary Services needed to support the schedules the Scheduling Coordinator submits;
- Each Scheduling Coordinator is obligated to pay all “settlement” types of charges that apply to the schedules the Scheduling Coordinator submits (that is, all charges other than the load-based access fee);
- In addition to the Scheduling Coordinator’s obligation to pay all “settlement” types of charges applicable to the schedules the Scheduling Coordinator submits, the Scheduling Coordinator must also pay any load-based access fees (where applicable) unless the Transmission Customer on whose behalf the Scheduling Coordinator is submitting schedules has committed to RTO West to directly pay its own applicable load-based access fees.

Also, a member of the Implementation Work Group suggested to me that we will want to be careful to say more than that Scheduling Coordinators must submit balanced schedules – we will want to have strong incentives for schedules to be based on legitimate, good faith load forecasts (with a provision for penalties (not just imbalance energy charges) if the discrepancy between schedule/forecast and actual load is too great). Otherwise there is the danger that Scheduling Coordinators that own generation could “game” the system by grossly underscheduling, and then selling imbalance energy out of their units at very high prices when RTO West comes up very short on energy supply. The contention is that this is what has been happening in California and we do not want to be exposed to the same problem in RTO West. A specific margin of error (such as +/- 2%) between load forecast and actual load is a suggested threshold before penalties apply. I am told that this is the approach PJM has taken to avoid the “gaming” pitfall.

ATTACHMENT H

Outline of Concepts for the Scheduling Coordinator Tariff Provisions (as discussed at the August 31 GIA Subgroup Meeting) [Redline by Carl Imparato - September 13, 2000]

Note that almost all of these issues are already covered in proposed Appendix J to the RTO Tariff. They therefore do not need to be put into an SC Agreement. Instead, such an Agreement should simply bind the SCs to comply with the RTO Tariff. This is the approach that was taken in California, Mountain West and Desert STAR.

The basic elements to be covered by the Scheduling Coordinator documents are as follows:

- All scheduling on the RTO West Transmission System must be through a Scheduling Coordinator;
- A Scheduling Coordinator must meet both technical requirements and creditworthiness requirements as described in the Scheduling Coordinator tariff appendix;
- A Scheduling Coordinator does not have to be a “Eligible Customer” under the RTO West Transmission Tariff, [**This might be true... but note that the definition of Eligible Customer is expanded beyond 888’s definition to include SCs to the extent that they schedule on behalf of other Eligible Customers.**] but can schedule only on behalf of Eligible Customers; also, an Eligible Customer does not have to qualify as a Scheduling Coordinator to be able to purchase and hold FTRs or to otherwise establish a relationship with RTO West as a Transmission Customer;
- There can be no more than one Scheduling Coordinator for each meter, and each meter at any Point of Interconnection between the RTO West Transmission System and any interconnected facilities must have a Scheduling Coordinator;
- The Scheduling Coordinator tariff provisions will make it a condition of the Scheduling Coordinator’s ability to schedule to any Points of Interconnection serving load within RTO West’s metered Control Area boundaries that the facilities to which the Scheduling Coordinator wishes to schedule must either be subject to a valid, Pre-Existing **Contract** or an RTO West Load Integration Agreement (and, the Scheduling Coordinator will be subject to penalties, and if necessary and subject to fair process through FERC, de-certification as a Scheduling Coordinator if these obligations are not fulfilled);
- The Scheduling Coordinator tariff provisions will make it a condition of the Scheduling Coordinator’s ability to schedule energy, IOS, or Ancillary Services from any Generation Facility within RTO West’s metered Control Area boundaries that the Generation Facility must either be subject to a valid, Pre-Existing **Contract** or an RTO West Generation Integration Agreement; and, if there is a valid, Pre-existing Generation Agreement, RTO

West must also have received instructions concerning how to operate in compliance with the valid, Pre-existing Generation Agreement (and, the Scheduling Coordinator will be subject to penalties, and if necessary and subject to fair process through FERC, de-certification as a Scheduling Coordinator if these obligations are not fulfilled);

- RTO West will have audit rights to verify that Scheduling Coordinators are complying with their obligations under the Scheduling Coordinator tariff provisions;
- Each Scheduling Coordinator is obligated to submit balanced schedules and to purchase or provide for all Ancillary Services needed to support the schedules the Scheduling Coordinator submits; **[This is more-or-less true, but not completely accurate in light of some of the changes recently made in the Congestion Management Work Group; but in any event, all we need to do is obligate the SC to “comply with the RTO Tariff” and we don’t need to get into specifics here. It is also important that we do not specify such details outside the RTO Tariff so we do not limit the ability of the RTO to change its Tariff as conditions require (and as FERC approves).]**
- Each Scheduling Coordinator is obligated to pay all “settlement” types of charges that apply to the schedules the Scheduling Coordinator submits (that is, all charges other than the load-based access fee);
- In addition to the Scheduling Coordinator’s obligation to pay all “settlement” types of charges applicable to the schedules the Scheduling Coordinator submits, the Scheduling Coordinator must also pay any load-based access fees (where applicable) unless the Transmission Customer on whose behalf the Scheduling Coordinator is submitting schedules has committed to RTO West to directly pay its own applicable load-based access fees.
- **[This is a non-issue. First, creating a standard of scheduling based on “legitimate, good faith load forecasts” would be very dangerous because such a standard would be far too subjective. Second, Appendix D of the RTO Tariff actually *does* specify an objective standard for scheduling and contemplates load deviation penalties which would address this problem. So all we need to do, again, is require that SCs comply with the RTO Tariff. Third, a 2% margin of error is ludicrous - in a wholesale environment and especially in a retail access environment (and existing merchants for the transmission owners would verify this). Finally, I note that the California problems regarding underscheduling are not due to SC “gaming”! The California market design explicitly contemplated that if an SC wanted to underschedule by 100% that would be acceptable. (I fought against this lunacy when I worked at PG&E, but was out-voted.) In any event, don’t blame the SCs for the bad rules. (And finally, I will also note that the “guilty parties” in California are actually the SCs for SCE and SDG&E -not the non-incumbents!)**

Attachment I

Stage 1 Scheduling Coordinator Appendix

Appendix j: sCHEDULING cOORDInATOR application and certification

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J.1 SCHEDULING COORDINATORS' ROLES AND RESPONSIBILITIES

J.1.1 SC Access To Transmission Service

Transmission Services are provided to Scheduling Coordinators ("SC") pursuant to the applicable terms and conditions of the RTO WEST Tariff. Energy and Ancillary Services to serve an Eligible Customer must be scheduled by an SC. Each metering point used for settlement may be represented by only one SC. RTO WEST will maintain a business relationship with the SC, not the other Eligible Customers for transmission. Billing for Transmission, Ancillary Services, and Energy Imbalance shall be between the SC and RTO WEST.

J.1.2 Qualifications To Be an SC

RTO WEST will accept balanced schedules for Resources serving load within the RTO WEST GRID, schedules for wheeling out/wheeling through, and schedules for Ancillary Services only from SCs which have been certified as such by RTO WEST. Each SC shall:

- a) **Demonstrate to RTO WEST's reasonable satisfaction that it is capable of performing the functions of an SC under the RTO WEST Tariff and that it is capable of complying with the requirements of the RTO WEST Tariff;**
- b) **Identify each of the entities (including itself if it trades on its own account) it represents and confirm that each entity is an Eligible Customer;**
- c) **Demonstrate to RTO WEST's reasonable satisfaction that the financial security criteria are being met; and**
- d) **Confirm that metering requirements defined in Appendix H and RTO WEST protocol 6 are being met in relation to each of the entities it represents.**

J.1.3 SC Responsibilities:

Each SC shall be responsible for performing the duties specified below.

a) Scheduling

- (i) **In the Day-Ahead Scheduling Process and the subsequent Schedule Adjustment Process and in accordance with Appendix B, submit and revise schedules for: non-Dispatchable Demands which the SC represents, Dispatchable Demands which the SC represents, Generators which the SC represents, imports into the RTO WEST Grid for which the SC is responsible, exports out of the RTO WEST Grid for which the SC is responsible, deliveries to or from other SCs within the RTO WEST Grid, and uses of the RTO WEST Grid under those Pre-Existing Contracts for which the SC is responsible**
- (ii) **In the Day-Ahead Scheduling Process and the subsequent Schedule Adjustment Process, ensure that the aggregate of the SC's schedules constitutes a Balanced Schedule, in accordance with Appendix B³**
- (iii) **Submit schedules, in the Day-Ahead Scheduling Process and the subsequent Schedule Adjustment Process, for those Ancillary Services that are self-provided by the SC, in accordance with Appendices B and D**
- (iv) **Submit bids and schedules, in the Day-Ahead Scheduling Process and the subsequent Schedule Adjustment Process, for those Ancillary Services which the SC will offer to RTO WEST's Ancillary Services acquisition processes in its role as provider of last resort, in accordance with Appendices B and D**
- (v) **Possess, acquire and schedule those transmission rights across the defined set of Flowgate Interfaces that are necessary to support the SC's Balanced Schedules, in accordance with Appendices A and B.**

(b) Grid Operation

- (i) **Coordinate and allocate curtailments and interruptions in Loads which the SC represents, in accordance with RTO WEST Dispatch Instructions issued pursuant to Appendix C**
- (ii) **Alter the SC's schedules in accordance with Appendices A and B and in accordance with RTO WEST Dispatch Instructions issued pursuant to Appendix C**
- (iii) **Direct the response of those Ancillary Service resources, Generating Units and Dispatchable Demands for which the SC is responsible, in accordance with RTO WEST Dispatch Instructions and in accordance with Appendices C and D**
- (iv) **Provide real-time information to RTO WEST and the CAOs in accordance with Appendix C.**

(c) Planning and Outage Coordination

- (i) **Submit Demand and resource forecasts to RTO WEST in accordance with Appendix F**
- (ii) **Submit maintenance outage schedules to RTO WEST for all Generators which the SC represents, in accordance with Appendix F.**

(d) Settlements and Market Monitoring

- (i) **Participate in the settlements process on behalf of all resources and demands which the SC represents, by providing metered data and load profiled data to RTO WEST and RTO WEST's designated settlement agent(s)⁴ in accordance with Appendix G**

³ **Note:** "Balanced Schedule" is a defined term in both Appendix B and in the Definitions. A Balanced Schedule is one for which, for every Trading Period (i.e., every hour), the algebraic sum of an SC's zonal injections (generation and imports), zonal withdrawals (loads, exports and deemed losses) and trades within RTO West (to and from other SCs operating within the boundaries of RTO West) sums to zero and that the SC has the required transmission rights across defined Flowgates (congested paths and export points).

⁴ As used herein, RTO West includes the organization itself and any Designated Agent(s) selected by RTO West to meet its duties and responsibilities.

- (ii) Settle with RTO WEST for all charges incurred under the RTO WEST Tariff, in accordance with Appendix G
- (iii) Maintain those records that are required by RTO WEST, and provide to RTO WEST that information which is required, in accordance with Appendices G, H and L.⁵

J.1.4 SC Billing

The SC must maintain a contractual relationship with the entities it represents. The SC is responsible for payment of charges for all services provided under the RTO WEST Tariff as defined in Appendix G and the Service Schedules.

J.1.5 Operation of SC

Except for SCs who: (i) only schedule non-Dispatchable Demands and (ii) whose only resources are procured from other SCs and (iii) who have transferred the responsibility for scheduling any Flowgate rights to those SCs from whom they are procuring resources, each SC will maintain a 24 hour, seven days per week scheduling center for the purposes of communicating with RTO WEST for scheduling purposes and the CAO on a real time basis. Each SC shall, for the duration of the scheduling process and Settlement Period for which the SC has submitted Schedules to RTO WEST, designate a representative who shall be responsible for operational communications with RTO WEST and who shall have sufficient authority to commit and bind the SC.

J.2 ADMINISTRATIVE AND TECHNICAL CERTIFICATION CRITERIA

RTO WEST will not certify that an applicant has become a SC until the applicant has:

[Note: This perhaps should become a definition in the Tariff and the TCA. Depending upon the final structure of the RTO West. RTO West may opt to outsource all billing and settlement functions to a qualified third party to manage the settlement, billing and dispute resolutions activity on behalf of RTO West.]

⁵ Note: Appendix G is Billing and Settlements; Appendix H is Metering; Appendix L is Market Monitoring.

- a) Provided the technical/operational information required in the Certification Application (Attachment J-1) and the Service Filing Form (Attachment J-2);
- b) Executed a software licensing agreement for the software used in conducting business with RTO WEST in a form approved by RTO WEST, if applicable;
- c) Installed any required hardware and software for functional interface with RTO;
- d) Provided its bank account information and arranged for Fed-Wire System transfers for two-way confirmation or, provided for alternative payment arrangements which are acceptable to RTO WEST;
- e) Submitted a timetable for completion of its operational facilities, in order to coordinate site visits by RTO WEST staff to ensure compliance with the RTO WEST Tariff; and
- f) When applicable, installed appropriate technology in order to communicate with RTO WEST and any applicable CAOs, including a dedicated telephone line and other equipment as required in the RTO WEST Tariff.

J.3 Certification PROCEDURE

J.3.1 Application

To become a SC, a SC Applicant must submit an Application for Certification (Attachment J-1) along with all information requested therein to RTO WEST by mail, carrier of choice, fax, e-mail (with prior approval of electronic signature certificates by RTO West) or in person. A SC Applicant may retrieve the application form and necessary information from the RTO WEST Website.

J.3.2 RTO WEST Information

RTO WEST will provide the following information, in its most current form, on the RTO WEST Website. Upon request by a SC Applicant, RTO WEST will send the following information by mail or carrier of its choice:

- a) The SC application forms, including the SC Certification Application form (Attachment J-1), the SC Service Filing Form (Attachment J-2), the Changes or Additions to Scheduling Coordinator's Information Form (Attachment J-3) and the SC Agreement (Attachment J-4).
- b) The RTO WEST Tariff and RTO WEST protocols;
- c) Historical customer specific RTO WEST charges, if available (i.e. historical charges will not be available for at least 120 days following the RTO WEST Operations Date) including, but not limited to all of the charges under the Service Schedules of the RTO WEST Tariff.

J.3.3 Submission of Application to RTO WEST

At least 60 days before the proposed commencement of service, the SC Applicant must return a completed application form with the prescribed non-refundable application fee to cover the application processing costs, site visit and the costs of furnishing a copy of the RTO WEST Tariff.

J.3.4 Application Requirements

The SC Applicant must submit:

- a) Its completed Application Form in original form with required signatures and in electronic form via electronic mail if originals are submitted in other than electronic mail format as specified in J.3.1. (Attachment J-1);
- b) The proposed date for commencement of service which may not be less than 60 days after the date the application was filed, unless waived by RTO WEST; and
- c) The prescribed non-refundable processing fee of _____.

J.3.5 Notice of Receipt

Within 3 business days of receiving the original form of the application, RTO WEST will send notification via electronic mail to the SC Applicant that it has received the application and the non-refundable fee.

J.3.6 RTO WEST Screening of Application

Within 14 days after receiving an application, RTO WEST will notify the SC applicant whether the applicant has submitted all necessary information as set forth in the

application form (Attachment J-1) and in Section J.2 of this Appendix.

J.3.7 Deficient Application

In the event the application is deficient, RTO WEST's written notification as supplied under Section J.3.6 will explain the deficiency and request additional information.

J.3.8 SC Applicant's Additional Information

Once RTO WEST requests additional information pursuant to Section J.3.7, the SC Applicant has 7 days from receipt of deficiency notice, or such longer period as RTO WEST may agree, to provide the additional material requested by RTO WEST.

J.3.9 No Response from SC Applicant

If the SC Applicant does not submit additional information within 7 days or the longer period referred to in Section J.3.8, the application may be suspended by RTO WEST. In the event that the application is suspended, the 60 day time period and all other requirements will begin again as if the request was a new request. A new processing fee will not be required for a suspended application.

J.4 RTO WEST APPROVAL OR REJECTION OF AN APPLICATION

J.4.1 Time for Processing Application

RTO WEST will make a decision whether to accept or reject the application within 14 days of receipt of the application. If more information is requested, RTO WEST will make a final decision within 14 days of the receipt of all outstanding or additional information requested.

J.4.2 Approval or Rejection Letter

- a) **If RTO WEST approves the application, it will send an approval letter with a signed SC Agreement and any required software licensing agreements for the SC Applicant's signature.**
- b) **If RTO WEST rejects the application, RTO WEST will send a rejection letter stating one or more of the following grounds:**
- i) **Incomplete information;**
 - ii) **Non-compliance with third party contractual obligations;**
 - iii) **Non-compliance with technical requirements; or**
 - iv) **Non-compliance with any other eligibility requirements in this Appendix of any other part of the RTO WEST Tariff.**

J.4.3 In Event of Applicant Rejection

J.4.3.1 Appeal

The SC applicant may appeal the rejection of an application by RTO WEST by utilizing the dispute resolution procedures in the RTO WEST Tariff.

J.4.3.2 Resubmittal

If an application is rejected, the SC Applicant may resubmit its application with the processing fee at any time.

J.5 CERTIFICATION OF SC APPLICANT

J.5.1 Certification

The SC applicant will become a certified SC when, following acceptance of its application, it has entered into a SC Agreement with RTO WEST. SCs must complete a Service Filing prior to commencing scheduling activities.

J.5.2 Maintenance of certification

To maintain certification, technical/operational requirements and rules of this Appendix and any other applicable portions of the RTO WEST Tariff and RTO WEST protocols must continue to be met.

J.5.3 Public notice

RTO WEST shall maintain on the RTO WEST Website a list of all certified SCs. RTO West will also maintain documents containing current and proposed specifications for all technical requirements on the RTO West Website.

J.6 SC's ONGOING OBLIGATIONS AFTER CERTIFICATION

J.6.1 Obligation to Report Changes in Filed Information

Each SC has an ongoing obligation to inform RTO WEST of any changes to any of the information submitted by it to RTO WEST as part of the Certification Application process, including any changes to the additional information requested by RTO WEST. Attachment J-3 of this Appendix sets forth the procedures for changing the SC's information and timing of notifying RTO WEST of such changes.

J.6.2 RTO WEST's Response for Failure to Inform

If an SC fails to promptly inform RTO WEST of a material change in its information provided to RTO WEST, which may affect the reliability or safety of the Grid, or the financial security of RTO WEST or its Participating Transmission Owners, RTO WEST may suspend or terminate the SC's rights under the RTO WEST Tariff. If RTO WEST intends to terminate the SC's rights it shall file a Notice of Termination pursuant to Section J.10.

J.7 SC'S SERVICE Filing

J.7.1 Submission of Service Filing

The SC Applicant must submit a complete Service Filing (Attachment J-2) 15 days prior to commencing scheduling activities. The Service Filing shall include:

- a) Proof of credit for the RTO WEST security amount defined in Section J.7.1.1;

- b) A complete listing of all entities which the SC is authorized to represent;
Written certification that it is duly authorized to represent the Generators and loads in transactions with RTO WEST; and
- d) The proposed date for commencement of service.

J.7.1.1 SC's Financial Requirement

A SC must satisfy one of the following:

- a) Maintain an Approved Credit Rating, or
- b) Provide one of the following forms of security for an amount described below:
 - i) An irrevocable direct pay letter of credit confirmed by a bank or financial institution reasonably acceptable to RTO WEST;
 - ii) An unconditional and irrevocable guarantee by a company which has and maintains an Approved Credit Rating; or
 - iii) A cash deposit standing to the credit of an interest bearing escrow account maintained at a bank or financial institution reasonably acceptable to RTO WEST.

J.7.1.1.1 Amount of Security

The form of security shall be in an amount equivalent to the estimated cost of two months of Transmission and Ancillary Services under the RTO WEST Tariff.

J.7.1.1.2 Release of Security Amount

RTO WEST will, following a termination of an SC Agreement and within thirty (30) days of being satisfied that no sums remain owing by the SC under the RTO WEST Tariff, return or release to the SC, as appropriate, any money or credit support provided by such SC to RTO WEST under this Section.

J.7.1.2 SC's Contracts for Scheduling Service

A SC must certify that it is duly authorized to represent the Generators and loads in transactions with RTO WEST. SCs must further certify, as appropriate, that for each entity it represents:

- a) **Represented Generators greater than ten megawatts have signed Generator Agreements with RTO WEST and have agreed that the SC will communicate maintenance outage schedules to RTO WEST;**
- b) **Represented wholesale customers are eligible for wholesale Transmission Service pursuant to the provisions of the FPA Section 212(h);**
- c) **Represented end-use customers are eligible for Direct Access Service pursuant to an established program approved by the Public Utility Commission or a Local Regulatory Authority; and**
- d) **Represented entity already served by an SC will terminate its relationship with the other SC.**

J.7.2 Notice of Receipt of Service Filing

Within 3 business days of receiving the Service Filing, RTO WEST will send a written notification to the SC applicant that it has received the Service Filing.

J.7.2.1 Deficient Service Filing Information

In the event the Service Filing information is deficient, RTO WEST will notify the SC of the deficiency and will explain what is deficient and request additional information.

J.7.2.2 SC Additional Filing Information

The additional material requested must be received by RTO WEST 15 days prior to beginning scheduling for a Generator and/or a load.

J.7.2.3 Duplicate Meter Coverage

If two or more SCs apply simultaneously to register with RTO WEST for a single meter or meter point for an RTO

WEST Metered Entity or if an SC applies to register with RTO WEST for a meter or meter point for an RTO WEST Metered Entity for which an SC has already registered, RTO WEST will return the application with an explanation that only one SC may register with RTO WEST for the meter or meter point in question and that an SC has already registered or that more than one SC is attempting to register for that meter or meter point. If an Eligible Customer is changing SC's, the new SC must indicate this in its application, requesting the transfer of the meter point between SC's and the date on which such transfer is to be effective.

J.7.3 RTO WEST Response to Service Filing

In 15 days or less after a completed Service Filing (either a filing that is initially complete or that has been supplemented pursuant to Section 7.2.2 above) is received by RTO WEST, RTO WEST will notify the SC that they can begin scheduling for the identified Generators and/or Loads.

J.7.4 RTO WEST Filing of Service Application and Certification with the Federal Energy Regulatory Commission.

Within 30 days of the date of commencement of service by the Scheduling Coordinator, RTO West will file the Service Application and Certification with the Federal Energy Regulatory Commission.

J.8 SC'S ONGOING SERVICE OBLIGATIONS

J.8.1 Change in Financial Status

The SC has an ongoing obligation to inform RTO WEST within 3 business days if its credit rating has changed. If the SC's credit rating is reduced below an Approved Credit Rating, RTO WEST will suspend the SC's scheduling rights under the RTO WEST Tariff, until the SC submits another form of security in accordance with Section J.7.1.1.

J.8.2 Failure to Maintain RTO WEST Security Amount

If the SC's estimated aggregate liability is greater than its RTO WEST security amount, RTO WEST will reject any schedule until such time as the SC increases its RTO WEST security amount or decreases its outstanding payment balance.

J.8.3 Obligation to Promptly Report Change in its Service Filing Information

The SC shall promptly notify RTO WEST of any change in the entities it represents. Not less than five (5) business days notice shall be given before the changes take effect. A SC shall continue to be accountable for the entities for which it is responsible pursuant to notice given to RTO WEST until the SC has provided notification of termination of scheduling responsibility.

J.8.4 Failure to promptly Report a Material Change

If an SC fails to inform RTO WEST of a material change in its service filing information provided to RTO WEST, which may affect the reliability or safety of the Grid, or the financial security of RTO WEST, RTO WEST will within 7 days suspend the SC's ability to schedule, and may suspend or terminate the SC's rights under the RTO WEST Tariff. If RTO WEST intends to terminate the SC's

rights it shall file a notice of termination with the Commission. Such termination shall be effective upon acceptance by the Commission of a notice of termination.

J.9 SC Agreement

A certified SC must sign a Scheduling Coordinator Agreement ("SC Agreement") prior to transacting business with RTO WEST. A pro-forma Scheduling Coordinator Agreement shall be posted in the RTO WEST Website.

J.10 Termination of SC Agreement

A SC's SC Agreement can be terminated by

a) RTO WEST on written notice:

- i) If the SC no longer meets the requirements for eligibility set forth in this Appendix;
- ii) If the SC fails to pay any sum under the RTO WEST Tariff and fails to remedy the default within a period of seven (7) days after RTO WEST has given written notice of the default; or
- iii) If the SC commits any other default under the RTO WEST Tariff which, if capable of being remedied, is not remedied within thirty (30) days after RTO WEST has given written notice of the default; or

b) By the SC on sixty (60) days written notice to RTO WEST, provided that such notice will not be effective to terminate the SC Agreement until the SC has complied with all applicable requirements of Section J.8.3.

RTO WEST will, as soon as reasonably practicable following the occurrence of any of the events specified above notify the SC, any affected Generator and/or load, and any affected SC's or CAOs that the SC Agreement is being terminated. Upon the occurrence on (i), (ii), or (iii) above, RTO WEST may initiate a proceeding with the Commission to terminate service but shall not terminate service until the Commission so approves such a request. Termination of the SC Agreement will automatically remove the SC's certification. Each affected Generator or load customer must make arrangements to be served by a new SC.

The information provided for this application will be treated as confidential information

APPENDIX J, ATTACHMENT J-1
SCHEDULING COORDINATOR CERTIFICATION APPLICATION FORM

This application is for certification as a Scheduling Coordinator ("SC") by RTO WEST in accordance with the RTO WEST Tariff.

I. Administrative Requirements

SC Applicant's Legal Organization Name:

Address of principal place of business:

Authorized Representative (if more than one, attach list with all information listed below):

Address: _____

Phone: _____

Fax: _____

E-mail: _____

Type of entity:

(Municipal utility, power marketer, investor owned utility, federal or state entity or other)

State of Incorporation or Partnership:

Proposed commencement date for service: _____

II. Financial Requirements

- 2.1 The SC Applicant has an Approved Credit Rating as set forth in the RTO WEST Tariff (yes/no).

The SC Applicant's credit Rating is _____.

Please attach certified documentation of an approved Credit Rating from Standard & Poors, Mood's Investors Services or the equivalent. SC Applicant must also submit an executed letter of understanding for payment providing contact details in case of default.

OR

- 2.2 The SC Applicant will provide an irrevocable and unconditional guarantee from a company which has an Approved Credit Rating: (yes/no)

The SC Applicant must submit a signed irrevocable and unconditional guarantee in an RTO WEST approved form and certified documentation of the other company's Approved Credit Rating. **OR**

The SC Applicant will provide one of the forms of security listed in Appendix J, Section J.7.1.1(b) in its Service Filing prior to commencing scheduling activities. **AND**

- 2.3 The SC Applicant must provide its bank account information. The SC Applicant's bank must be capable of performing Fed-Wire System transfers.

III. Technical Requirements

- 3.1 Does the SC Applicant have the computer hardware, software and communication capabilities for interface compatibility with the RTO WEST system for data transmission, for electronic data interchange (EDI) and for Fed-Wire System transfer accounts: (yes/no).

If no, please submit a proposed completion date to be fully operational so that a RTO WEST staff site visit can be arranged.

- 3.2 For Loads and Generating Units located within the RTO WEST Controlled Grid, does the SC Applicant have any scheduling restrictions imposed by the parties they represent? (yes/no).

If yes, attach documentation as provided by the load or generation customer along with further explanation as necessary.

- 3.3 Does the SC Applicant agree to provide adequate staffing to operate a SC's operational facility twenty-four (24) hours a day for each day of the year: (yes/no).

If no, please submit either (a) a proposed completion date to be fully operational so that a RTO WEST staff site visit can be arranged, or (b) in the case of SCs who (i) only schedule non-Dispatchable Demands and (ii) whose only resources are procured from other SCs and (iii) who have transferred the responsibility for scheduling any Flowgate rights to those SCs from whom they are procuring resources, a statement to that effect.

IV. Additional Information and Obligations

- 4.1 The SC Applicant agrees to provide such further information to RTO WEST as RTO WEST may deem necessary to process the application and certify the SC Applicant as a SC now and on a continuing basis.
- 4.2 Subject to the RTO WEST Tariff, the SC Applicant agrees to promptly report to RTO WEST within three (3) business days or earlier any changes regarding the information provided by it referred to in the Appendix J and in the application.
- 4.3 The SC Applicant agrees to promptly execute and return the SC Agreement and software licensing agreement after receiving its application approval letter from RTO WEST and prior to submitting any schedules to RTO West.
- 4.4 The SC Applicants right to schedule services with RTO WEST is contingent upon the SC Applicant completing a Service Filing and fulfilling all financial and technical requirements as referenced in Appendix J.
- 4.5 The SC Applicant agrees to enclose herein the non-refundable application fee to cover the application processing costs, site visit and costs of providing a copy of the RTO WEST Tariff.

Please make check payable to:
RTO WEST
(address to be provided)

SC Applicant certifies by its signature on this Application Form that:

- (1) all information it is submitting is correct and accurate; and that
- (2) the SC Applicant has read and agrees to be bound by the RTO WEST Tariff as may be in force or amended from time to time.

Name of Organization:

SC Applicant's Name (please print):

SC Applicant's Title:

SC Applicant's Signature:

State of _____ }

County of _____ }

[SEAL]

Sworn and subscribed
before me this ____ day of
_____, _____.

Notary's Signature: _____

Please send application and required information to:

RTO WEST
(address to be provided)

The information provided for this application will be treated as confidential information

APPENDIX J, ATTACHMENT J-2
SCHEDULING COORDINATOR SERVICE FILING FORM

This filing is for service as a Scheduling Coordinator ("SC") by RTO WEST in accordance with the RTO WEST Tariff.

I. Administrative Requirements

SC's Legal Organization Name:

Address of principal place of business:

Authorized Representative (if more than one, attach list with all information listed below):

Address: _____

Phone: _____

Fax: _____

E-mail:

Type of entity:

(Municipal utility, power marketer, investor owned utility, federal or state entity or other)

State of Incorporation or Partnership:

Proposed commencement date for service:

II. SC Customer Information

- 2.1 The information required under Appendix J must be provided for represented SC Metered Entities, which are Generators. The SC must submit all requested information at least 15 days before the commencement of service.
- 2.2 Information for SC Metered Entities which are Eligible Customers must be kept in a standard business format based on generally accepted accounting principals. RTO WEST shall have the right to inspect and audit a Scheduling Coordinator's accounts and files relating to its SC Metered Entities after giving two business days notice in writing.
- 2.3 The SC must submit a list of all RTO WEST Metered Entities that it will represent.

III. Security Requirement

- 3.1 The SC certifies that it has an Approved Credit Rating or and irrevocable and unconditional guarantee from a company which has an Approved Credit Rating consistent with information provided in its Certification Application (yes/no). **OR**
- 3.2 The SC will provide an irrevocable and unconditional letter of credit: (yes/no).
Amount: _____

The SC must submit a signed irrevocable and unconditional letter of credit in a RTO WEST approved form before final certification. **OR**

- 3.3 The SC will provide a cash deposit: (yes/no).
Amount: _____

The SC must enter into an escrow agreement in a RTO WEST approved form before final certification. **AND**

- 3.3 The SC certifies that its bank account information provided in its Certification Application is true and correct and that the SC's bank is capable of performing Fed-Wire System transfers.

IV. Third Party Contractual Requirements

- 4.1 The SC confirms that all of its customers which are located within the Grid and which should execute agreements with RTO WEST, have entered into or will enter into such agreements prior to the SC commencing scheduling activities. (yes/no).

- a) Represented Generators greater than ten megawatts have signed Generator Agreements with RTO WEST: (yes/no).
- b) Wholesale Customers it will represent have warranted to the SC that they are eligible for wholesale Transmission Service pursuant to the provisions of the FPA Section 212(h): (yes/no).
- c) Each Eligible Customer it will represent which requests Direct Access service has warranted to the SC that the Eligible Customer is eligible for such service: (yes/no).

4.2 The SC confirms that all of the parties which it represents as a SC have granted it all necessary agency authority, whether actual, implied or inherent, to enable the SC to perform all of its obligations under the RTO WEST Tariff: (yes/no).

4.3 Notwithstanding 4.2, the SC confirms that it will have the primary responsibility, as the principal, for all SC payment obligations under the RTO WEST Tariff: (yes/no).

V. Additional Information and Obligations

5.1 The SC agrees to provide such further information to RTO WEST as RTO WEST may deem necessary to process the Service Filing.

5.2 Subject to the RTO WEST Tariff, the SC agrees to promptly report to RTO WEST within three (3) business days or earlier any changes regarding the information referred to in Appendix J and provided by it in the Certification Application and the Service Filing.

5.3 The SC's right to commence scheduling activities with RTO WEST is contingent upon acceptance by RTO WEST of this Service Filing.

SC certifies by its signature on this Application Form that:

- (1) all information it is submitting is correct and accurate; and that
- (2) the SC has read and agrees to be bound by the RTO WEST Tariff as may be in force or amended from time to time.

Name of Organization:

SC Applicant's Name (please print):

SC Applicant's Title:

SC Applicant's Signature:

State of _____ }

County of _____ }

[SEAL]

Sworn and subscribed
before me this ____ day of
_____, _____.

Notary's Signature: _____

Please send application and required information to:

RTO WEST
(address to be provided)

The information provided for this application will be treated as confidential information

APPENDIX J, ATTACHMENT J-3
**Procedures for Changes or Additions to
Scheduling Coordinator's (SC's) Information**

The SC must update, amend and / or correct the information originally submitted to RTO WEST during the SC application process using the format set forth in this Appendix and/or a revised Appendix C, the RTO WEST Application File Template. The SC must submit all changes or additional information by first class postage paid mail or carrier of choice to:

RTO WEST
(address to be provided)

The SC must notify RTO WEST of any change to the information that it has previously submitted to RTO WEST, or any additional information, at least three business days before the change will take effect.

RTO WEST will send a written acknowledgment of receipt of the SC's changes within three business days of receipt. The receipt shall be sent to the address on file with RTO WEST or the address specified in the notice of change received by RTO WEST.

Prior Information

New Information

Explanation and Reason for Change

Attachment J

Stage 1 Draft Scheduling Coordinator Agreement

RTO West

SCHEDULING COORDINATOR

AGREEMENT

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SCHEDULING COORDINATOR AGREEMENT

THIS AGREEMENT is made this ___ day of _____, _____ and is entered into, by and between:

- [Full legal name] having a registered or principal executive office at [address] (the Scheduling Coordinator)

and

- **MOUNTAIN WEST INDEPENDENT SCHEDULING ADMINISTRATOR CORPORATION**, a Nevada nonprofit corporation having a principal executive office located at such place in the State of Nevada as RTO WEST Board may from time to time designate (RTO WEST).

Whereas:

- The Scheduling Coordinator has applied for certification by RTO West under the certification procedure referred to in Appendix J of the RTO Tariff.
- The Scheduling Coordinator wishes to schedule energy and Ancillary Services on the Grid under the terms and conditions set forth in the RTO Tariff.

NOW IT IS HEREBY AGREED as follows:

1. Definitions.

- Terms and expressions used in this Agreement shall have the same meanings as those contained in Attachment J to the RTO Tariff.
- The RTO Tariff shall mean the RTO Tariff as amended from time to time, inclusive of all appendices, attachments and service schedules thereto.

2. Covenant of the Scheduling Coordinator.

The Scheduling Coordinator agrees that:

- the RTO Tariff governs all aspects of scheduling of energy and Ancillary Services on the Grid, including (without limitation), the financial and technical criteria for Scheduling Coordinators, bidding, settlement, information reporting requirements and confidentiality restrictions;
- it will abide by, and will perform all of the obligations under the RTO Tariff placed on Scheduling Coordinators with regard to all matters set forth therein including, without limitation, all matters relating to the scheduling of energy and Ancillary Services on the Grid, ongoing obligations with regard to scheduling, settlement, system security policy and procedures to be developed by RTO West from time to time, billing and payments, confidentiality and dispute resolution, and all procedures set for within the RTO WEST protocols;

- it shall ensure that each Generator for which it schedules energy or on whose behalf it submits to RTO West bids for Ancillary Services enters into a Generator Agreement in accordance with Section ____ of the RTO Tariff;
- it shall have the primary responsibility to RTO West, as principal, for all Scheduling Coordinator payment obligations under the RTO Tariff;
- its status as a Scheduling Coordinator is at all times subject to the RTO Tariff.

3 . Term and Termination

3 . 1 This Agreement shall commence on the later of (a) the RTO WEST Operations Date or (b) the date the Scheduling Coordinator is certified by RTO West as a Scheduling Coordinator.

3 . 2 This Agreement shall terminate upon acceptance by the Commission of a notice of termination. RTO West shall timely file any notice of termination with the Commission.

4 . Assignment

Either Party may assign its obligations under this Agreement with the other Party’s consent, such consent to not be unreasonably withheld.

5 . Partial Invalidity

If any provision of this Agreement, or the application of such provision to any persons, circumstance or transaction, shall be held invalid, the remainder of this Agreement, or the application of such provision to other persons or circumstances or transactions, shall not be affected thereby.

6 . Settlement Account

The Scheduling Coordinator shall maintain at all times an account with a bank capable of Fed-Wire Transfer to which credits or debits shall be made in accordance with the billing and Settlement provisions of Appendix G, Section G.5.3 (d) of the RTO Tariff. Such account shall be the account referred to in Clause 7 hereof or as notified by the Scheduling Coordinator to RTO West from time to time by giving at least 7 days written notice before the new account becomes operational.

7 . Notices

Any notice, demand or request made to or by either Party regarding this Agreement shall be made in accordance with the RTO Tariff and unless otherwise stated or agreed shall be made to the representative of the other Party indicated below.

RTO WEST:

Name of Primary Representative: _____

Name of Alternative Representative: _____

Address: _____

State: _____ Zip Code: _____

E-Mail Address: _____

Phone No: _____

Fax No: _____

Scheduling Coordinator:

Name of Primary Representative: _____

Name of Alternative Representative: _____

Address: _____

State: _____ Zip Code: _____

E-Mail Address: _____

Phone No: _____

Fax No: _____

Settlement Account No: _____

Title: _____

Sort Code: _____

Bank: _____

8 . Agreement to be bound by RTO WEST Tariff

The RTO Tariff is incorporated herein and made a part hereof. In the event of a conflict between the terms and conditions of this Agreement and any other terms and conditions set forth in the RTO Tariff, the terms and conditions of the RTO Tariff shall prevail.

9 . Electronic Contracting.

All submitted applications, schedules, bids, confirmations, changes to information on file with RTO West and other communications conducted via electronic transfer (e.g. direct computer link, FTP file transfer, bulletin board, e-mail, facsimile or any other means established by RTO West) shall have the same legal rights, responsibilities, obligations and other implications as set forth in the terms and conditions of the RTO Tariff as if executed in written format.

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed by their respective authorized officials.

Mountain West Independent Scheduling Administrator Corporation:

By: _____

Title: _____

Date: _____

[Scheduling Coordinator]:

By: _____

Title: _____

Date: _____

Attachment K

California ISO's Tariff Treatment of Scheduling Coordinator Issues

(Lauren Nichols)

- The California ISO's tariff does not have a lot of sections that specifically focus on the Scheduling Coordinator (SC) concept. However, the obligations and commitments required of scheduling coordinator (along with their rights) are defined throughout the tariff (for example, in scheduling, ancillary services, metering, and settlements and billing sections...).
- Appendix B to the CAISO tariff is the Scheduling Coordinator Agreement. It covers:
 - Definitions
 - Covenant of the Scheduling Coordinator
 - Term and Termination
 - Assignment
 - Partial Invalidity
 - Settlement Account
 - Notices
 - Agreement to be Bound by ISO Tariff
 - Electronic Contracting

In reading over their SC agreement, it covers legal issues and does not look like a similar approach would need much input from the scheduling coordinator group.

- The CAISO protocols (Volume II) do have a section on the Scheduling Coordinator Application Protocol. It includes:
 - Objectives, Definition and Scope
 - Requirements to Become a Scheduling Coordinator
 - ISO Approval or Rejection of an Application
 - Post Application Procedures Prior to Final Certification
 - Final Certification of SC Applicant
 - ISO's Response to Failure to Inform (re: credit rating/security changes)
 - Amendments to the Protocol
 - Scheduling Coordinator Application Form
 - Procedures for Changes or Additions to SC's Information
 - ISO Application File Template
- The index of the California ISO's tariff does specifically reference "Scheduling Coordinator" in a few places:
 - Section 8.3 covers "Allocation of the Grid Management Charge Among Scheduling Coordinators and Other Appropriate Parties",
 - Section 10.6 covers "Metering for Scheduling Coordinator Metered Entities", and

- Section 11.12 covers “Non-payment by a Scheduling Coordinator”.