

**RTO WEST
IMPLEMENTATION WORK GROUP**

**June 1 & 2, 2000
0830-1700**

**RTO Offices, Kingstad Center
Portland, OR**

**Meeting Minutes
Version 1 – June 5, 2000**

Attendees:

Jack Bernhardsen, PNSC	LeRoy Patterson, MP
John Boucher, KEMA Consulting	Dave Perrino, APX
Douglas Cave, BC Hydro	Deanna Phillips, BPA/PBL
Carolyn Cowan, Sierra Pacific/Nevada Pwr	Vern Porter, IPC
Chris Elliot, NWPP	Chris Reese, PSEI
Jon Fisker, PGE	Mike Ryan, PGE
Richard Goddard, PGE	Norm Stanley, Pacificorp
Bob Harshbarger, PSEI	Ralph Underwood, SCL
David James, Avista	Jim Vinson, BPA/TBL
John McGhee, BPA/TBL	Don Watkins, BPA/TBL
Rich Nassief, NWPP/NRTA	

Calendar:

May 23, 2000	0830 - 1230	Work Group Meeting	Kingstad Center	✓
June 1, 2000	0830 - 1700	Work Group Meeting	Kingstad Center	✓
June 2, 2000	0830 - 1530	Work Group Meeting	Kingstad Center	✓
June 9, 2000	0830 - 1530	Work Group Meeting	Ditmer Control Center	
June 16, 2000	0830 - 1530	Work Group Meeting	Kingstad Center	
June 22, 2000	0830 - 1700	Work Group Meeting	Kingstad Center	
June 23, 2000	0830 - 1530	Work Group Meeting	PDX Center	
July 14, 2000	0830 - 1530	Work Group Meeting	Kingstad Center	
July 21, 2000	0830 - 1530	Work Group Meeting	Kingstad Center	
July 28, 2000	0830 - 1530	Work Group Meeting	Kingstad Center	
August 4, 2000	0830 - 1530	Work Group Meeting	Kingstad Center	
August 11, 2000	0830 - 1530	Work Group Meeting	Kingstad Center	
August 18, 2000	0830 - 1530	Work Group Meeting	Kingstad Center	

Assignments:

Action Item	Responsible Parties	Status
Update consensus assumptions list to cover all FERC 2000 characteristics and functions	John Boucher	Due 6/9/2000
Provide spreadsheet of ancillary services operational responsibilities to AS WG	Mike Ryan	Due 6/9/2000
Define AGC hierarchical operation strawman for 6/9 meeting discussion	Bob Harshbarger (lead), Deanna Phillips, Mike Ryan, Don	Due 6/9/2000

	Watkins	
Outline discussion points for metering operations and retail access	Ralph Underwood (lead), LeRoy Patterson, Vern Porter, Don Watkins	Due 6/9/2000
Define technology requirements strawman for 6/9 meeting discussion	Don Watkins (lead), Bob Harshbarger, Dave Perrino, Mike Ryan	Due 6/9/2000
Outline discussion points for Support functions	Richard Goddard (lead), Jack Bernhardsen, Chris Elliott, John McGhee	Due 6/9/200
Define specific control center selection parameters	David James (lead), Douglas Cave, Jon Fisker, Norm Stanley, Jim Vinson	Due 6/9/2000

Summary of Consensus:

1. Consensus was reached, subject to input from other work groups, on bullet lists (see attached) specifying operational responsibilities for the following:
 - a. Transmission Management
 - b. Maintenance Schedule Coordination
 - c. Congestion Management
 - d. Integration Agreements
 - e. Transmission Security
 - f. Ancillary Services
 - g. Accounting and Billing
 - h. Inadvertent Interchange
 - i. Settlement Functions
 - j. Market Monitoring
2. A working agreement was reached, subject to further discussion regarding concern that the function may be better bundled into the RTO itself and concern for transferring Nevada to the PNSC, that the security coordination existing functions would be contracted to PNSC given appropriate governance on their part.
3. Consensus was reached that all telemetry would be executed at the local control center with data links, with appropriate communications protocols, up to the regional center.
4. Note that in any case where consensus is reached that later proves inconsistent with decisions made by work groups responsible for a specific policy, such as Ancillary Services, then the Implementation work group will bring its consensus into conformance with those decisions.

Highlights of Meeting by Agenda Item (Agenda Attached)

Agenda Item 1: Hierarchical Control Definition

A. Security Coordination does the functions now associated with it, not new functions.

- i. Discussion:

Contract for these services since RTO entities involve all three SCs.
RTO should keep the authority and responsibility for Security Coordination for RTO entities.
There is a need for SC for those entities that are not a part of the RTO.
This function, if done by the RTO, should answer to the RTO board or at a very high management level.

a) Working assumptions:

Contract with PNSC for RTO SC services.

b) Concerns:

Changing Nevada into PNSC jurisdiction may not make sense.
Separating SC functions from RTO activities may not be optimal.
Open question regarding integrating SC functions into the RTO.
Contracting for services may complicate WSCC funding of SC with RTO.

B. Other Security Functions

i. SCADA

a) All telemetry at local control center.

b) Data links up to the regional center with appropriate communication protocols.

ii. AGC

a) AGC function must be implemented at the regional level, initially.

b) Initially done through local entity.

c) This should transition to the regional level.

d) Initially implement at region only where necessary.

e) Set up a task force to address if regulation must be purchased on a plant basis or if it can/must be purchased on a portfolio basis.

f) Markets:

Regulation – Control area must acquire.

Load following – Control area must acquire.

Contingency Reserve Spinning – provide on a regional basis.

Contingency Reserve Non-spinning – provide on a regional basis.

iii. Security applications

a) State estimation

b) On line power flow.

c) Contingency analysis.

d) Voltage Stability Assessment

e) Dynamic Security Assessment

f) Implementation:

These should be implemented at the regional level, but local entity can implement also. However, VSA and DSA should be implemented only if needed.

iv. Voltage control

a) Seams issues

b) Facility issue

c) Guide:

RTO should assume functions only when this increases efficiency, decreases discrimination or provides benefits.

d) Decision:

RTO normally coordinates voltage levels with implementation at the local level, normally.

v. Dynamic circuit rating

RTO function with local execution likely.

vi. Remedial Action Schemes (RAS)

Generation

Direct Load tripping

Regional RAS is the responsibility of the RTO. If RAS is for local conditions, then the local entity does it.

vii. Load Shed

Under frequency

Under Voltage

Regional Load Shed is the responsibility of the RTO. If Load Shed is for local conditions, then the local entity does it.

viii. Regional Restoration

Regional is the responsibility of the RTO, otherwise the local entity does it.

C. Operational Planning/OTC/Outage coordination

Regional

RTO leads outage coordination including with non-participants.

D. OASIS/ATC/TTC

Regional

E. Scheduling

Regional

F. Reserve Sharing

RTO participation and possible host of this service.

G. Load forecasting

Operational forecasts (near term) are the responsibility of the RTO (control area).

H. Post Operation functions

i. All RTO

ii. CASSO candidate service for accounting.

Agenda Item 2: RTO/Transmission Owner Interface

I. Maintenance

- i. RTO sets standards
- ii. RTO can veto the schedule

Agenda Item 3: Discussion of IndeGO Operations Report Assumptions

The Work Group updated the assumptions as shown in the attached “Implementation Assumptions”. There is an action item to enhance this set of assumptions to include references to all FERC 2000 RTO Characteristics and Functions.

Agenda Item 4: Four Breakout Groups to Define Operational Responsibilities

The following breakout groups were formed. They reported back to the group and consensus was achieved on their bullet items. Attached are the consensus results for each group. Each group will remain responsible for continuing to update its areas.

- 1) Transmission Management, Maintenance Schedule Coordination, and Congestion Management:
LeRoy Patterson, Bob Harshbarger, Ralph Underwood, Jim Vinson
- 2) Transmission System Security
Don Watkins, Jack Bernhardsen, Richard Goddard, Norm Stanley
- 3) Ancillary Services Coordination
Mike Ryan, Douglas Cave, Jon Fisker, David James
- 4) Billing & Accounting, Inadvertent Interchange, Settlement Functions, Market Monitoring
Deanna Phillips, John McGhee, Vern Porter

Agenda Item 5: Creation of Control Center Assessment Criteria

The high level criteria for evaluation are attached. The objective is to be able to access the cost to acquire and operate a candidate site. Dittmer is to be evaluated as the primary site. Candidates for back-up site (and alternate primary if Dittmer were removed from consideration) are Seattle (SCL’s new site), Butte, Spokane, Las Vegas, Reno, and Northern Oregon (PGE). As per the assignments defined earlier in these minutes, a task team has been established to define specific parameters for assessing control center candidates.

Agenda Item 6: Identify Action Items

See the assignments.

Next Meeting:

The next meeting will be held at the Ditmer Control Center on Friday, June 9, 2000. Each task team will present the results of their action item. The Work Group will then tour and assess the Dittmer Control Center.

**Implementation Work Group
Meeting – June 1 & 2
Agenda**

Day 1

Hierarchical Control Definition	0830
<ul style="list-style-type: none">• Scheduling• Security• Dispatch• Regulation	
Break	1015
RTO/Transmission Owner Interface	1030
Discussion of IndeGO Operations Report Assumptions	1100
Lunch	1200
Discussion of Assumptions Continued	1300

Four Breakout Groups Meet to Define Operational Responsibilities	1400
<ul style="list-style-type: none"> • Security Coordination • “Pre” Operations • Real-Time Operations • “Post” Operations 	

Day 2

Breakout Continued	0830
Break	1015
Presentation by Breakout Groups	1030
Lunch	1230
Consensus Discussion on Operational Responsibilities	1330
Creation of Control Center Assessment Criteria	1500
Identify Action Items	1630

Attachment 2

3.2 Transmission Management

Transmission management is a set of RTO West application functions that will be provided to effectively utilize the transmission system for the benefit of the transmission owners and customers. The following functions are performed. All of the functions will be required for the Stage 1 implementation:

- **Operations Scheduling** – The RTO West requires advance information to perform the following activities.
 - Approve transmission service reservations submitted by the transmission customers via the OASIS
 - Receive and coordinate transaction schedule notifications electronically and check that the transaction schedules are covered by the transmission service reservations
 - Receive generation schedules electronically
 - Coordinate operating load forecasts from control areas
 - Verify that ancillary services have been acquired by the transmission customers
 - Acquire and verify that suppliers can provide ancillary services to the RTO West.
- **Transmission Marketing** – The RTO West will aggressively discount and market transmission to maximize transmission efficiency which will reduce total transmission cost.
- **Dynamic Interchange Scheduling** – The RTO West will permit dynamic scheduling. The RTO West needs to know the expected or forecasted minimum, maximum and hourly average value of the schedule and other real-time power system data.
- **Generation Redispatch for Congestion Relief** – Transmission customers applying for firm transmission service may request that the RTO West perform a redispatch and cost analysis in the event of insufficient transfer capability for their desired transmission reservation following the RTO congestion management methodology and FERC tariff.
- **RTO West OASIS** – The RTO West is required to administer an OASIS node that will have interfaces to the Internet. This node needs to be compatible with applicable FERC initiative requirements.

- **TTC/ATC Calculation** – The RTO West will calculate TTCs and ATCs, taking into account CBMs and TRMs, as required for posting on the OASIS. The RTO West will coordinate these ATCs with adjacent RTOs and non-RTO transmission providers.
- **Transmission Loss Calculation** – The RTO West will determine the amount of transmission losses according to its filed tariff.
- **Point-to-Point Transmission Service** – The RTO West must administer point-to-point transmission service with respect to ATCs, reservation priorities, and curtailment.
- **Network Integration Transmission Service** – The RTO West must administer network integration transmission service with respect to:
 - Planning, operation, and maintenance
 - Firm transmission service for: capacity and energy; for ancillary services of regulation, spin, non-spin, and transmission losses
 - Load shedding and curtailment procedures
 - Impact and facility studies.
- **Transaction Processing** – The RTO West is responsible for the following:
 - Processing transmission service requests
 - Allocation of transmission losses and ancillary services
 - Notification of transaction schedules and any changes.
- **NERC Tagging** – The RTO West will comply with applicable tagging criteria.
- **Transaction Contract Settlement** – The RTO West is responsible for the following accounting and billing associated with transactions:
 - Transmission service charges
 - Ancillary service charges
 - And other charges according to the tariff.
- **Revenue Distribution** – The RTO West has the responsibility to use or distribute the revenues that it receives from the transmission customers according to its applicable contracts and tariffs.
- **Transmission Service Tariff** – The RTO West must also administer the rates to be charged for transmission service.

3.6 Maintenance Schedule Coordination

The RTO West will collect planned maintenance schedules from the transmission owners. The RTO West will coordinate and approve (or deny) outages for RTO West controlled facilities and facilitate outage schedules with non-RTO West controlled facilities to maximize transmission usage.

3.11 Congestion Management

The RTO West is responsible for administering real-time congestion relief procedures, considering both economics and control effectiveness. These functions may include.

- **Congestion Relief** – Congestion relief needs to be applied in a prescribed priority sequence, considering transactions, generation, and load.
- **Transmission Loading Relief** – The RTO West is required to apply the prevailing procedures as defined for the Interconnection.
- **Generation Redispatch and Load Shedding Capability** – [**Subject to congestion work group.** In addition to transaction curtailment the RTO West can consider the possibility of generation redispatch and load shedding capability. Redispatch and load shedding capability will need to be based on the bid prices that are offered by the generators and the price limits specified by the loads.]
- **Allocation of Redispatch Costs** – The cost of redispatch will be allocated to the transmission customers according to the rules of the RTO West tariff and agreement. The revenues received will be allocated to the generators and transmission owners according to the RTO West tariff and agreement.

3.X Integration Agreements

The RTO West will execute Integration Agreements with both Load and Generators. These agreements will address specific requirements associated with generation and load and their interactions with the RTO West.

- **Generation Integration Agreement** – The RTO West requires every generator connecting to RTO West controlled facilities to sign this agreement.
- **Load Integration Agreement** – The RTO West requires every load connecting to RTO West controlled facilities to sign this agreement.

Attachment 3

Transmission System Security Breakout (6/1/00 - 6/2/00)

Functional Control. RTO West will have operational authority for all transmission facilities under its control and will be responsible for security coordination within its region. Activities will include:

- a. Use of RAS systems to maintain transmission capacity in a reliable manner.
- b. Configuration of the transmission system
- c. Voltage control
- d. Frequency and tie line control
- e. Remediation of OTC violations
 - (1) Unscheduled flow mitigation.
 - (2) Real-time congestion management

Operational Support:

- a. Operating procedures – RTO West will be responsible for establishing and implementing operating procedures for normal and emergency conditions. To the extent possible, existing procedures will be adopted (reviewed and standardized). RTO West will establish a method for making changes.
- b. OTC calculations
- c. Operating load forecast (to support real time operations)
- d. Off-line system studies
- e. Support and use of on-line security applications

f. Voltage schedules - RTO West will determine voltage schedules. RTO West participants will implement voltage schedules.

g. Disturbance analysis

Security Coordination: Security coordination functions are accomplished in the relatively short time frame between approximately 48 hours ahead of an event or condition, through real-time. Reliability activities that take place before this time frame, and actions taken to correct system deficiencies after the event, are separate functions.

a. RTO West will be the designated NERC security coordinator for RTO West facilities. In this role, RTO West will ensure reliability of the power system in real-time operations in a manner consistent with the procedures described in NERC Policy 9.

b. RTO West may initially contract with PNSC to provide Security Coordination services for RTO facilities.

c. Security coordination functions include:

- (1) Performing on-line load-flow and stability studies to anticipate, identify and address security problems;
- (2) Within confidentiality and use restrictions, exchanging security information with local and regional entities;
- (3) Monitoring real-time operating characteristics through such as the availability of reserves, actual power flows, interchange schedules, system frequency and generation adequacy; and
- (4) Directing actions to maintain reliability, including firm load shedding.

On-line Security Applications (for use by the security coordinator and other RTO West staff):

- a. State estimation
- b. On-line power flow
- c. Contingency analysis
- d. Voltage and dynamic stability analysis, if practical

Attachment 4

3.4 Ancillary Services Coordination The RTO-West is responsible for making certain that the transmission customers have acquired the proper type and amount of ancillary services, corresponding to their transmission service requests. The following ancillary services are proposed for Stage 1 implementation:

§ Scheduling, System Control, and Dispatch -The control area operators have physical control over this ancillary service to the RTO customers, under the coordination of RTO-West. Suppliers and recipients of this ancillary service are paid and billed according to the terms of RTO-West tariff.

§ Reactive Supply and Voltage Control from Generation Sources -The control area operators must offer to provide this ancillary service to the RTO customers, under the coordination of RTO-West.

§ Regulation and Frequency Response -RTO-West is required to pass on (and post in an ancillary market) offers and the rates charged by the suppliers of this service. The RTO customer must obtain this ancillary service either directly from a service supplier or through RTO-West.

§ Energy Imbalance -RTO-West is required to pass on (and post in an ancillary market) offers and the rates charged by the suppliers of this service. The transmission customer must obtain this ancillary service either directly from a service supplier or through RTO-West.

§ Operating Reserve -Spinning -RTO-West is required to pass on (and post in an ancillary market) offers and the rates charged by the suppliers of this service. The transmission customer must obtain this ancillary service either directly from a service supplier or through RTO-West.

§ Operating Reserve -Supplemental- RTO-West is required to pass on (and post in an ancillary market) offers and the rates charged by the suppliers of this service. The transmission customer must obtain this ancillary service either directly from a service supplier or through RTO-West.

Attachment 5

Accounting & Billing

The RTO West is responsible for the accounting and billing process, credit monitoring, and funds transfers via a dedicated bank account (the size of this function can be impacted by provisions for interface support to state retail access programs). Within a reasonable time after the first day of each month, the RTO West will submit an invoice to the transmission customer for the charges for all services furnished under the Tariff during the preceding month (or more frequently if the size of the accounts warrants). The following functions are required:

Accounting & Billing Input Data

Input data needs to be obtained from the following sources:

- Generator owners:
 - Meter Readings for Actual Generation
- Transmission owners
- Control Area Operators
 - Actual Interchanges
- Transmission customers
 - Meter Readings for Loads
- RTO WEST
 - Transaction schedules
 - OASIS
 - Scheduling Databases.

Accounting Increments

All transmission transactions will be accounted for in whole MW increments.

Credit Worthiness

RTO West has the responsibility for and will perform or contract for credit worthiness checks on customers.

Schedule Reconciliation

RTO West will reconcile actual performance against schedules.

Penalties for Non-Compliance

The RTO WEST has the authority to impose financial penalties for such actions as: non-compliance to operating orders and directives issued by the RTO WEST; violation of RTO WEST policies; violation of provisions in the RTO WEST Tariff and the RTO WEST Agreement.

Billing Statement

The monthly billing statements will result from the roll-up of hourly billing data and will have a line item for each element of the bill. All hourly supporting billing data must be made available to RTO WEST participants. A single billing statement will need to be produced for each company, capturing all the charges/credits to that company. Intermediate supply companies are responsible for billing their end use customers.

Billing Adjustment Process

Billing adjustments will be required in the event that corrections need to be made to the supporting data and/or calculations. Adjustments may be made before and after the billing statement has been posted. Procedures will need to be in place to handle the resolution of billing disputes.

Billing Procedures

Billing procedures will need to be established by the RTO WEST to facilitate and ensure the secure transfer of funds to and from the RTO WEST bank account.

Implementation Options

- 1) *Contract out for service*
- 2) *Implement internally with accounting package linked to OASIS and scheduling.*

Inadvertent Interchange

Each generation control area is responsible for the accurate measurement and recording of its hourly inadvertent net interchange and sending these records to the RTO WEST. Payback will continue to be made by the individual generation control areas in accordance with applicable criteria. The RTO WEST is responsible for monitoring its generation control area inadvertent interchanges, calculating the RTO WEST net inadvertent interchange with external control areas, and coordinating the paybacks among its generation control areas and the external control areas.

Settlement Functions

The following functions and data processing are required:

Payments to Generation Owners

Generation owner settlement falls into the following general categories:

- energy re-dispatch
- IOS Services
- regulation, frequency response, load following, spinning reserve, non-spinning reserves, generation supplied reactive, black start
- Losses
- RAS
 - ? **minimum generation and startup**
 - ? **stranded cost recovery**
 - ? **location of generation incentives**

Payments to Transmission Owners

Transmission owner settlement falls into the following general categories:

- revenue distribution
- return of RTO WEST startup cost
- compensation for new facilities and upgrades

Transmission Customer Bills

Transmission customer bills will include line items for the following general categories:

- actual transmission reserved
- congestion clearing costs
- ancillary service costs
- RTO WEST operational costs
- settlement accounting costs
- payments for facility & system impact studies
- deposits for reserved capacity for firm point-to-point transmission service.
 - ? **location of generation incentives**
 - ? **stranded cost charges**
 - ? **load serving entities and load aggregators**
 - ? **bilateral transaction contractors**
 - ? **new construction and upgrade charges.**

All settlement input data and output results need to be stored with secure access restrictions and provisions for auditing. The software version identification and any modifications to logic or algorithms must also be saved for any necessary reconstructions.

Archive

Settlement data is required to be archived according to the following time frames: short term on-line (90 days); Intermediate term (2 years); long term (10 years)

Security

Only authorized users must be allowed to access settlement data on a restricted/private basis.

Audit Trail

Data must be stored so that audit trails can be constructed that will provide accurate end-to-end traceability of the data and processes so that calculations performed by the various functions can be verified.

Reliability Compliance

RTO West and all its control areas are responsible for compliance with appropriate reliability criteria. RTO West and all its control areas are responsible for accurate monitoring and recording relevant data and reporting performance against criteria as required.

Market Monitoring

RTO West will develop procedures to monitor the transmission service market activities over which the RTO West has authority. The intent is to determine if there are any attempts by RTO West transmission owners or customers to create transmission constraints to exclude competition, or any other behavior that undermines the provision of transmission service. Monitoring assessment reports will be prepared and submitted directly to the regulatory agencies.

Attachment 6

Implementation Assumptions

- A. RTO West will operate a control area, and therefore, will have all the responsibilities of a control area. For example: RTO West must meet NERC control performance criteria (CPS1, CPS2, and DCS), and, to fulfill FERC requirements, RTO West must be a provider of last resort of ancillary services. In addition, there may be transmission customers who will want RTO West to provide load following services for their native loads.
- B. RTO West will follow WSCC Minimum Operating Reliability Criteria (MORC) and NERC Policies relating to reliable system operation.
- C. RTO West will schedule the transmission system under its control according to its tariff and applicable reliability practices.
- D. RTO West will manage congestion in both the pre-schedule market and the real time arena. RTO West will have full authority to administer all schedules on all paths in the RT West jurisdiction.
- E. RTO West will have full responsibility for security of the transmission system under its jurisdiction even though the function will initially be contracted out to the Pacific NW Security Coordinator. Concerning the NERC security process recommendations, RTO West will have the responsibility of a Security Coordinator as outlined in that document. RTO West will have authority to take prudent action to maintain the reliability and integrity of the transmission grid.
- F. RTO West will operate the transmission system to facilitate the maximum safe utilization of the grid, and to allow the competitive generation market transparent and non-discriminatory access.
- G. There will be (an) integration agreement(s) between RTO West and each entity connecting to RTO West facilities. This (these) agreement(s) will specify the terms and conditions for interconnection. These may include, but not be limited to, RTO West jurisdiction with respect to facility operation, facility owner or customer responsibilities, voltage set-points, power factor requirements, relay standards, and generator equipment standards such as power system stabilizers, exciters, governors, etc.
- H. RTO West will be the provider of last resort for ancillary services to comply with FERC Order 2000 for transmission providers. These services will be provided via a competitive bidding process to the maximum extent possible. The requirements to provide such services and the compensation to be given for these services will be specified in the individual control agreements between RTO West and each party, in FERC tariff(s), or both.
- I. In an emergency, RTO West will have the authority to require all connected loads and generators to take whatever actions are required to maintain system reliability. The requirements to provide such services and the compensation to be given for these services will be specified in the individual control agreements between RTO West and each party.
- J. RTO West will have authority to approve and disapprove requests for scheduled outages of transmission facilities operated by RTO West to ensure that the

outages can be accommodated within established reliability standards. RTO West will coordinate outages to maximize the overall transfer capability of the grid. RTO West will work together with transmission owners to coordinate all performance of required maintenance and facility upgrades in a timely manner within established state, regional and national reliability standards.

- K. Existing control centers may remain in service and may function in a number of capacities. They may:
 1. Act as sub-dispatch centers for RTO West to switch RTO transmission facilities in and out of service at the request of the RTO West operator.
 2. Act as control areas if the transmission customer chooses to control for its own load.
 3. Act as sub-dispatch centers for RTO West in controlling generators for load following for RTO West.
 4. Act as switching centers for the facility owners' sub-transmission facilities, distribution facilities, or both not under RTO West jurisdiction.

- K. (Planning process placeholder)

- L. RTO West will archive historical data to support congestion management, market monitoring, auditing, etc.

- M. RTO West will acquire services and perform its functions economically and in a non-discriminatory manner.

- N. RTO West shall not operate a Power Exchange. It shall use market mechanisms run by third parties wherever possible to facilitate competition for the provision, purchase or sale of power products and services. However, RTO West may implement market mechanisms to run real time markets to meet its ancillary service and balancing energy needs.

- O. RTO West will operate the OASIS for the transmission system under its jurisdiction. RTO West will be responsible for the posting and updating of the transmission paths that it schedules.

Control Center Assessment Criteria

1. Location
 - a. Work force availability
 - b. Accessibility
 - c. Quality of life
 - d. Influence on operating costs
 - e. Environmental

2. Physical facility
 - a. Control room adequacy
 - b. Sufficient office space
 - c. 7 x 24 operations support
 - d. Multiple sources of power/UPS/back-up
 - e. Fire protection
 - f. Security
 - g. Controlled environment for equipment
 - h. Independence (no market participant co-location)

3. Communications

- a. High speed digital communications to other control centers
 - b. Redundant communications
 - c. Operating costs of existing communications
 - d. Frequency sources
4. Computing systems and applications
 - a. Redundant computing facilities
 - b. Open, distributed architecture
 - c. Modern user interface to support applications
 - d. Adequacy of applications
 5. Purchase/lease price
 6. State incentives for bringing in jobs

IMPLEMENTATION WORK GROUP

Thursday, June 08, 2000

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