
An RTO Overview

Prepared for
CREPC Dialogue with RTO West

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Transmission Reform

- ❑ To create competitive generation market:
 - ✓ Preferred public policy objective -- EPAct'92
 - ✓ Open Transmission Access is a necessary condition
 - ✓ Accomplished by “Unbundling” of transmission service from other generation and distribution activities

- ❑ FERC open access Initiatives:
 - ✓ 1994 -- Promulgation of comparable service standard
 - ✓ 1996 -- **Functional** unbundling of industry through open access tariffs under Order Nos. 888/889
 - ✓ 1997-98 -- Approval of independent system operators
 - ✓ 2000-2002 -- **Operational** unbundling of industry through Regional Transmission Organizations



The Western Market

❑ The Western System characteristics:

✓ High degree of interconnection for size.

- NE US ~100,000 MW w/ interconnections of 4,500 MW (4.5% Peak)
- WSCC ~ 120,000 MW w/interconnections of 18,500 MW (15.4% Peak)

✓ Resource interdependence between regions.

❑ Benefits of region-wide trade:

✓ Seasonal diversity -- North peaks winter & South peaks summer

✓ Resource diversity --

- Rocky Mountain coal fired resources in Alberta, Montana, Wyoming, Colorado, Utah, Arizona and New Mexico.
- Pacific Northwest hydro resources in British Columbia, Washington, Oregon, Idaho and Montana.
- Gas fired generation from pipeline sources in Canadian Prairies, Wyoming, New Mexico and West Texas.



What Kind of RTO -- An ISO

- ❑ ISO cannot take delivery risk:
 - ✓ Without an asset base to work against, congestion cost must pass through to customers;
 - ✓ Since customers bear delivery risk, they be involved in network expansion; and
 - ✓ Dispersed expansion responsibility requires agreement by many parties.
- ❑ Organizational Focus:
 - ✓ Optimization of existing network, and
 - ✓ Facilitating network expansion by others.



Pricing Reform

- ❑ Traditional Postage Stamp Pricing:
 - ✓ Average cost per kW of peak load for each owner's facilities.
 - ✓ Wheeling charges “pancake”, i.e., they are the sum of the “postage stamps” for each system across which the transaction is scheduled.
 - ✓ The congestion created by loop flow not directly addressed.
- ❑ Transmission Pricing Reform:
 - ✓ Combine small system charges under a single fee structure.
 - Used to collect majority of fixed costs from access fees.
 - “License plates” concept used to resolve price shifting concerns.
 - ✓ Institute congestion pricing over large areas.
 - “Zonal hubs and inter-zonal spokes”.
 - Loop flow addressed by pricing congestion with RTO.
 - Price coordination between RTOs at hubs.



Market Scale

	<u>WSCC</u>	<u>RTO West</u>	
Wholesale Purchases*	\$15,077	\$5,697	
Wholesale Sales*	\$8,770	\$5,517	
Retail Market*	\$38,550	\$10,434	
Transmission Revenue Requirement**		\$1,036	(9.9% of Retail)
RTO West Initial Cost		~\$100	(1.0% of Retail)
RTO West Annual Cost		~\$50	(0.5% of Retail)

Notes:

*1998 RDI Database

** IndeGO Data for 8 Utilities

