

# Clean Energy Transformation Act Market Workgroup

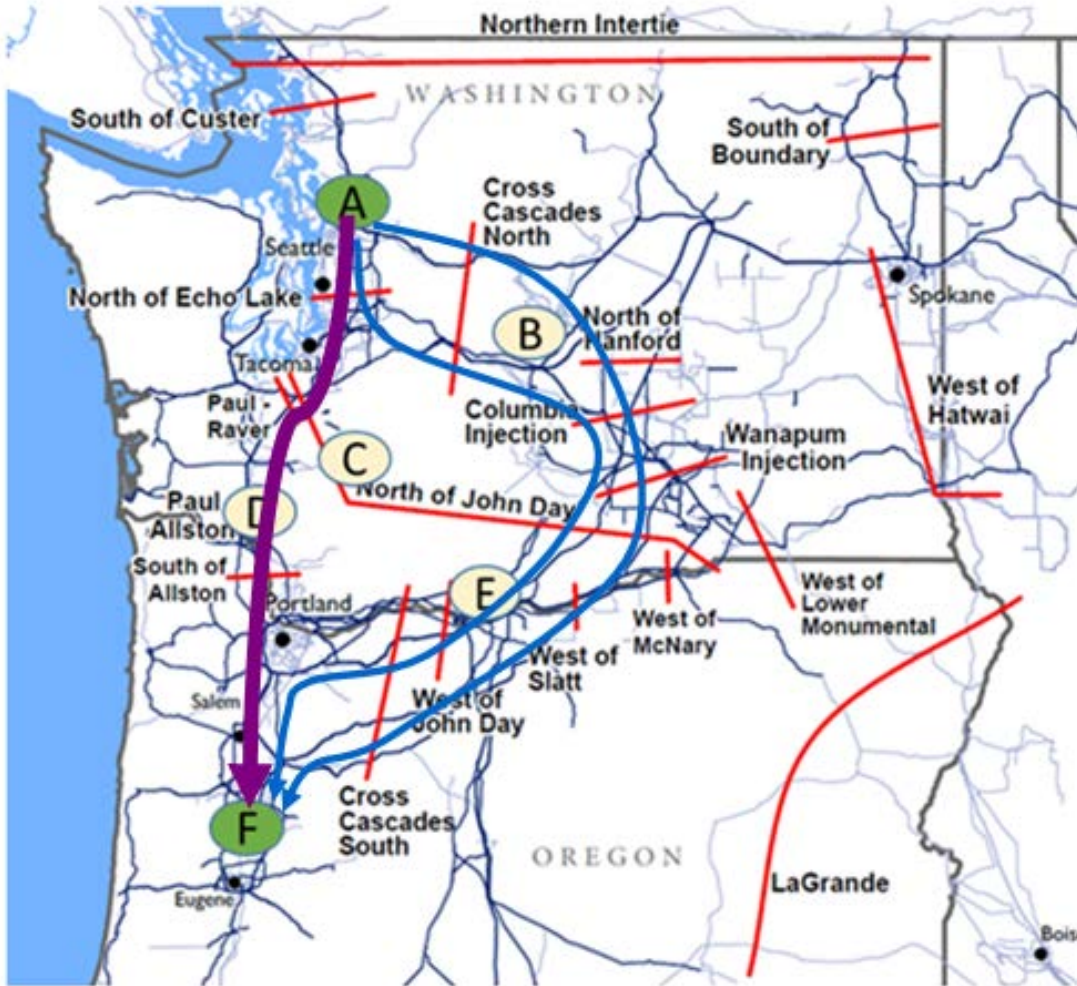
*Presentation on how transmission  
service works*

April 30, 2020

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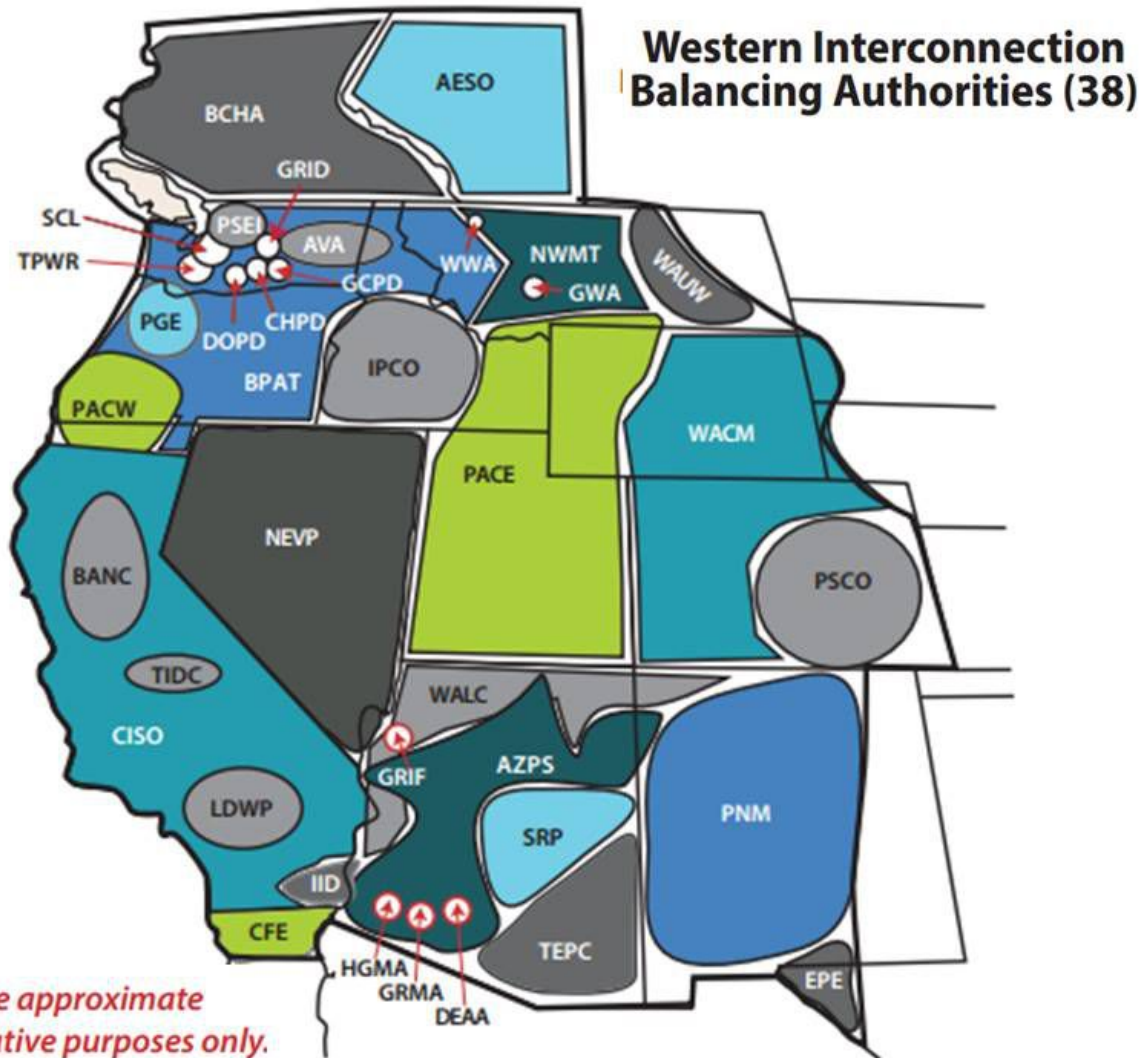


# Contracts vs. Physics of Energy Moving on the Grid



- In a *contract path* system, a seller near Seattle wants to sell generation to a buyer with load near Eugene
- They enter a transmission service contract for the right to move power from a point of receipt (A) to a point of delivery (F)
- In a *physical flow* system, actual energy movement is more complicated. It automatically splits across multiple paths

# Balancing Authorities Across the West



- Most western Balancing Authorities use the contract path method for selling transmission to support transactions on the system
- CISO (or the California Independent System Operator, CAISO) uses a flow-based approach
- BPAT (or BPA) uses a flow-based approach for the majority of its internal system and a contract path method for transmission ties that import/export energy to/from its system, as well as a few radial generation interconnection lines on its internal system

# The Open Access Transmission Tariff (OATT) Framework



# OATT Service: *Primarily* a Contract Path Based Framework

## Point-To-Point Transmission Service (PTP)

- Capacity based reservation from a **specified point of receipt** to a **specified point of delivery** on a transmission providers system
- Varies in length of service term (Long-Term or Short-Term) and firmness (Firm or non-firm)
- Transmission charged on reserved capacity; transmission needs to be scheduled using an “e-tag”

## Network Integration Transmission Service (NITS)

- Firm transmission utilized by a Designated Network Resource (DNR)
- Transmission rate based on load ratio share
- Allows for secondary network (non-firm) utilization for non-DNR with priority over other non-firm service
- Transmission charged on demand; needs to be scheduled using an “e-tag” but is not as granular as PTP

## Available Transfer Capability (ATC)

- ATC is the transfer capability remaining on a transmission provider’s transmission system that is available for further commercial activity over and above already committed uses
  - Firm – unreserved by a customer
  - Non-firm – reserved but not scheduled for that timeframe
- Methodology for calculating ATC typically found in OATT Attachment C

# OATT Service: Transactions Facilitated by "E-Tags"

PGE_PSEMKT0313704_PSEI				Start/Stop Time: Apr 15, 2020 11:00 - Apr 15, 2020 12:00 PDT					
<b>Tag Information</b>									
GCA	CPSE	Tag Code	LCA	Transaction Type	Time Zone	Test Tag	Tag MWH at Gen (Original/Final)	Tag MWH at Load (Original/Final)	
PGE	PSEMKT	0313704	PSEI	Normal	PDT	No	75 / 75	75 / 75	
PSE Comment: PSE - SALE - SLATT &gt; PSEsys									
Multiple Base Profile: No									
<b>Market Path</b>									
PSE	Product	Contract	Misc Info						
PGEMPG	G-F		<a href="#">Yes</a>						
PSEMKT	L		No						
<b>Physical Path</b>									
BA	TSP	MO	PSE	POR	POD	Sched Entities	Contract	Misc Info	Loss
PGE			PGEMPG	Source: PGESlattGen				No	
	PGE		PGEMPG	PGE.SLATT	Slatt	PGE		No	
	BPAT		PSEMKT	Slatt	BPAT.PSEI	BPAT		No	
	PSEI		PSEMKT	BPAT.PSEI	PSEI.SYSTEM	PSEI		No	
PSEI			PSEMKT	Sink: PSEISYS				No	

# Transmission Provider/OATT Diversity

Investor Owned Utility	Municipal or Public Utility District	Power Marketing Administration	Provincial Utility
<ul style="list-style-type: none"> <li>• Provides transmission service under a FERC-approved OATT</li> <li>• Rates and OATT changes approved by FERC in publicly notified dockets under the FPA</li> <li>• Non-interstate business regulated by a state regulatory body</li> </ul>	<ul style="list-style-type: none"> <li>• Various organic statutes that create/govern the utility</li> <li>• Very limited FERC regulation and no FERC-approved OATT</li> <li>• Various mechanisms for memorializing terms and conditions of transmission service</li> <li>• Various local governance and regulatory schemes</li> </ul>	<ul style="list-style-type: none"> <li>• Various organic statutes that create/govern the utility</li> <li>• Various oversight by DOE and Congress</li> <li>• Limited FERC regulation</li> <li>• Maintain OATT but not approved by FERC</li> <li>• Various rules for changing OATT terms and conditions</li> </ul>	<ul style="list-style-type: none"> <li>• Organizational separation between operational and marketing functions</li> <li>• Limited FERC regulation</li> <li>• Marketing organization is the EIM Entity and does not provide transmission service</li> </ul>

# Independent System Operator (ISO)/Regional Transmission Operator (RTO) Environment





# Transmission in RTOs/ISOs: *A Flow Based Framework*

- Transmission service under an RTO/ISO tariff is provided as part of the market structure for imports serving load, generation serving load, and exports to other BAAs, as well as “wheel through” transactions across the Balancing Authority Area.
- Transmission is not explicitly reserved and schedule (using an “e-tag”) like it is within an OATT environment
- Typically, all transmission service under an RTO/ISO tariff is firm transmission service; RTO/ISO does not offer a non-firm transmission product. In addition, all transmission service is network service; an RTO/ISO does not distinguish point-to-point and network service in its market.
- To procure transmission service under an RTO/ISO tariff, each customer or market participant (usually through a “Scheduling Coordinator”) will bid or self-schedule transactions in the markets and all awards and self-schedules will include transmission service.
- All applicable RTO/ISO tariff charges will apply to these transactions, including but not limited to, energy, transmission access charges, ancillary services, administrative charges, etc.