

Wholesale Energy Trading Resolution Updates

March 2, 2020



Why We're Here

- Overview of wholesale energy trading resolution
- Reasons to update resolution
- Proposed resolution limits/language
- Summary - next steps

No Action Required Today

Overview of Wholesale Energy Trading Resolution

- Current wholesale energy trading resolution was adopted in 2011 (Resolution 11-13687)
- Commission delegated the authority to enter into wholesale transactions within defined criteria to the General Manager
- Resolution does not apply to cost-based, long-term contracts or sales or purchases made to or for the District's retail customers
- RCW 54.16.040 requires that a resolution authorizing such transactions must be introduced at a Commission meeting at least ten (10) days prior to the adoption of the resolution

Reasons to Update Resolution

1. District's wholesale business along with the wholesale energy markets have evolved over time
 - Current resolution treats all physical energy transactions the same regardless of pricing structure and purpose
 - Specified source carbon-free energy sales are typically priced at index (variable price)
 - Proposed resolution separates fixed price transactions and index price transactions
2. Wholesale energy market uncertainty
 - Proposed resolution limits are more conservative, mitigating risk of purchasing at high market prices
 - Supports evolving Resource Adequacy and potential capacity shortfalls
3. Modeling flexibility
 - Proposed changes allow Power Risk Management Committee (PRMC) to determine best modeling approaches

1. District's wholesale business along with wholesale energy products have evolved over time

- Introduction of specified source carbon-free energy transactions
 - Commands a premium on top of energy price
 - Typically, the energy price is index (variable) with a premium adder
 - Example: MIDC index (energy price) + \$5.00/MWh (specified source carbon-free premium adder)
- District receives incremental value for carbon-free premium
- Need to track transactions with known revenue streams separately from unknown revenue streams

2. Wholesale energy market uncertainty

- Many studies show NW region facing capacity shortfalls in the near future
 - Northwest Power Pool (NWPP) is developing a Resource Adequacy program
 - Recent price excursions illustrate constrained system
- Current resolution trading limits based on average water conditions
- Proposed resolution trading limits based on stress water conditions (low 1 in 20 water year)
 - Ensures adequate resources are available to meet load
 - Protects against purchasing at high prices

3. Modeling flexibility

- Current resolution limits type of modeling techniques
- Proposed resolution provides flexibility to PRMC to determine best modeling approach
- Type of modeling approach dependent upon type of analysis (not one approach fits all needs)

Proposed Resolution Updates Include:

- Limits that apply to fixed price transactions only
- Limits that apply to fixed price and index price transactions together (combined)
- Different limits apply to current year and beyond current year time periods

Proposed Fixed Price Transaction Limits

- Proposed language limits fixed price sales in an amount equal to surplus generation under stress water conditions
- Proposed resolution language:
 - “For terms within the current year, net fixed price sales and fixed price purchases, measured in average megawatts, shall not exceed expected generation, as adjusted for a margin to account for variability including stress water as determined by the Power Risk Management Committee, for the remainder of the year.”
 - “For terms beyond the current year, net fixed price sales and fixed price purchases, measured in annual average megawatts, shall not exceed generation assuming stress water in any future calendar year without prior approval of the Power Risk Management Committee.”

Proposed resolution protects against severe downside scenario

(stress water & high prices)

Current resolution	2021		
	Position with max sales	High energy prices	Financial impact
	annual aMW	\$/MWh	annual \$
average water	30	N/A	N/A
stress water	-22	\$300	(\$57,816,000)

stress water & high energy prices

Under current resolution, the District would be short 22 aMW in a stress water scenario. If high prices occurred in this scenario, it would cost the District almost \$58 million to purchase energy

Proposed resolution	2021		
	Position with max sales	High energy prices	Financial impact
	annual aMW	\$/MWh	annual \$
average water	52	N/A	N/A
stress water	0	\$300	\$0

stress water & high energy prices

Under proposed resolution, the District would not be short in a stress water scenario, therefore no financial impact from high prices in this scenario

Notes:

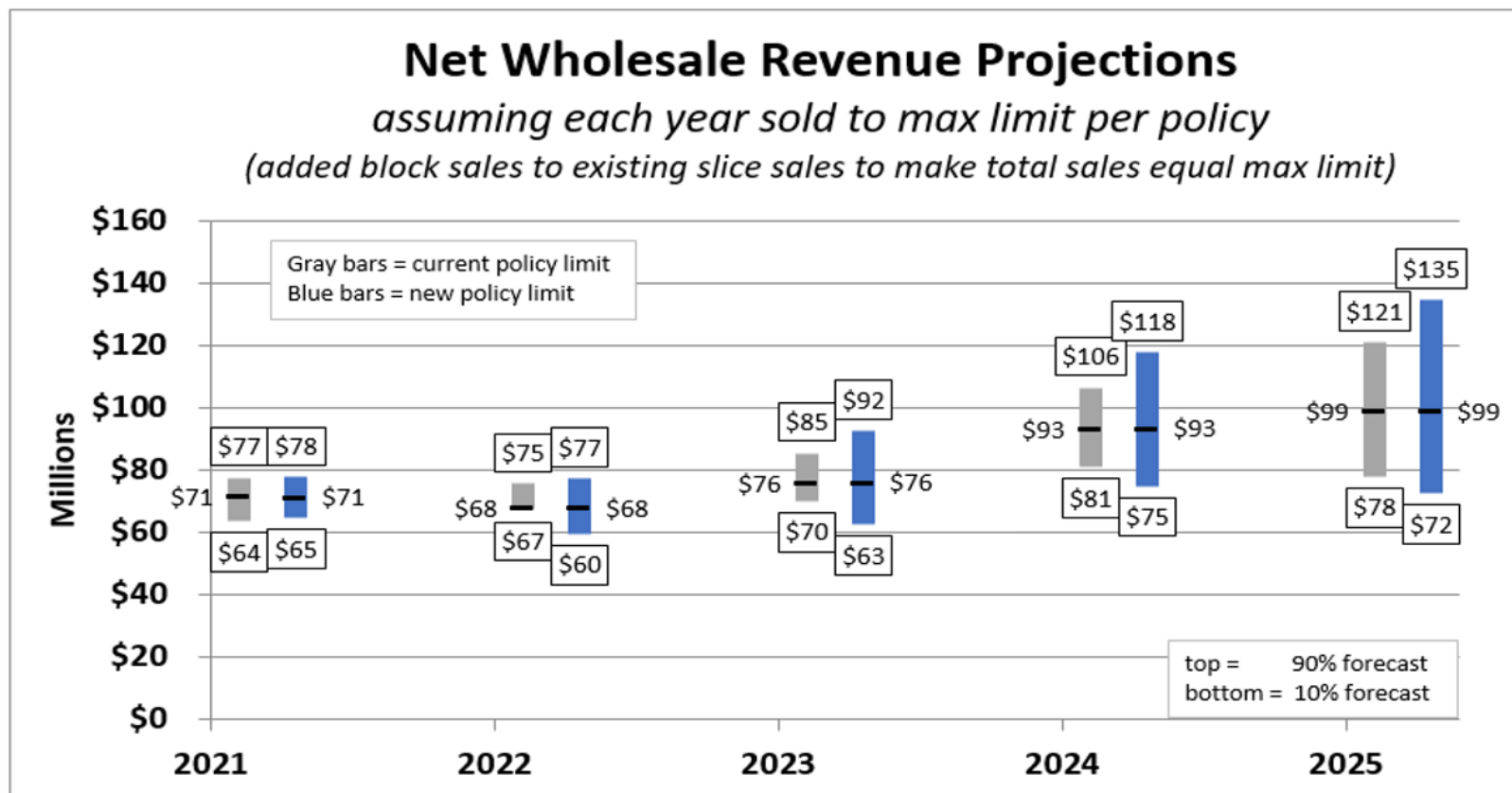
Stress water equals 1 in 20 (5% chance) of low water from historical streamflows

High energy price (\$300/MWh) ~ 2000/2001 12-month average price

Revenue Forecast Comparison

(current vs proposed)

- Proposed changes to resolution increases revenue volatility (less fixed price forward sales)



Proposed Limits For Fixed Price and Index Price Transactions (combined)

- Forward trading resolution limits District forward trading to physical energy
- Fixed price (known price) and index price (variable price) transactions are contractual commitments of physical energy
- Fixed and index transactions serve two different purposes:
 - Fixed provides a fixed revenue stream and mitigates against downside price risk
 - Index allows the District to capture specified source energy value (specified source energy is typically traded using index price energy)
- Physical energy limits cap the amount of market purchases needed to fulfill contractual commitments of physical energy

Proposed combined limits

- Proposed language sets two separate limits depending on time:
 - For terms within the current year, proposed language limits sales in an amount equal to generation under stress water (same as fixed price limit)
 - For terms beyond the current year, proposed language provides flexibility to sell an additional 175 aMW (priced at index) in addition to the fixed price transaction limit

The District has approximately 175 aMW of specified source energy under stress water conditions
- Proposed resolution language to limit combined transactions:
 - “For terms within the current year, net fixed price sales and fixed price purchases plus net index price sales and index price purchases, measured in average megawatts, shall not exceed expected generation, as adjusted for a margin to account for variability including stress water as determined by the Power Risk Management Committee, for the remainder of the year.”
 - “For terms beyond the current year, the addition of net index price sales and index priced purchases to the net fixed price sales and fixed price purchases, measured in annual average megawatts shall not exceed generation assuming stress water by more than 175 average megawatts in any future calendar year.”

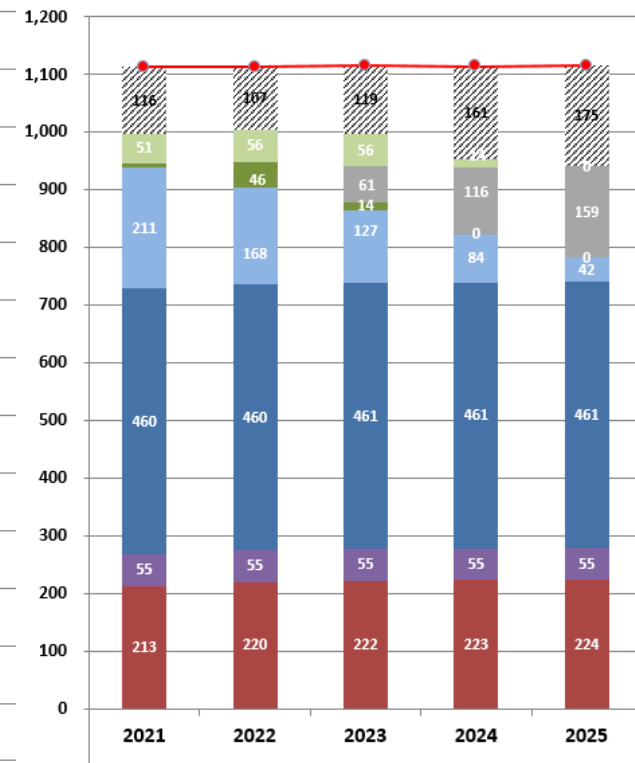
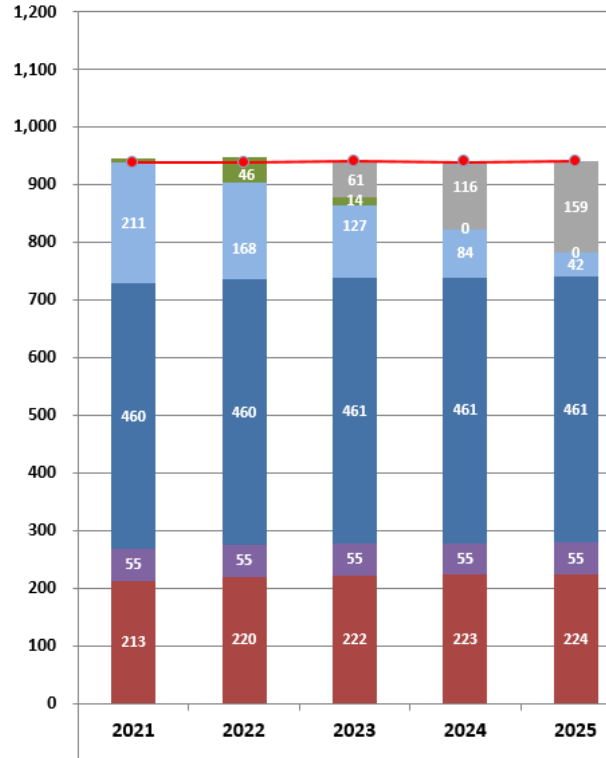
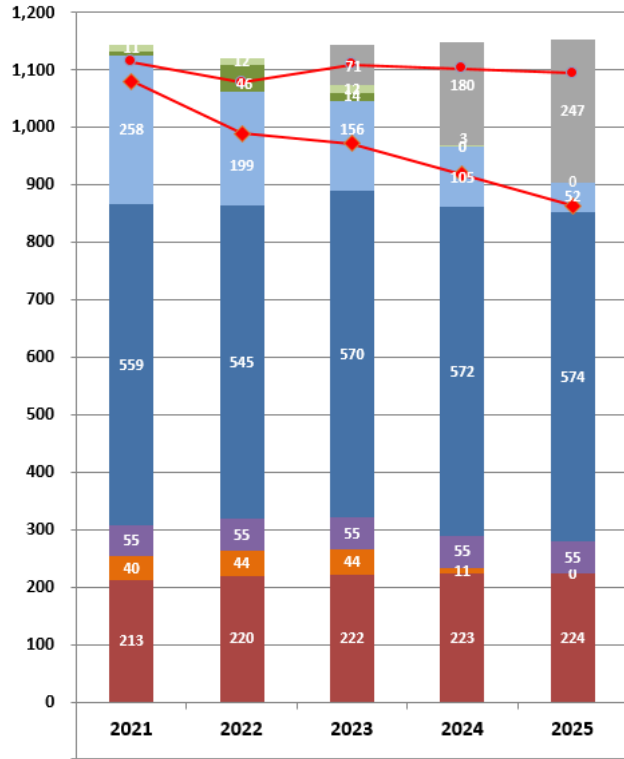
District's Energy Commitments (aMW)

Current Resolution

Proposed Resolution

Fixed Price

Fixed Price + Index Price



—●— Hedge Max —●— Hedge Min

- Uncommitted
- Index Price Block Contracts
- Fixed Price Block Contracts
- Market Based Slice
- Long-term Cost Plus Slice
- Canadian Entitlement
- Off-System End-Use (Index Price)
- Local Load

—●— Hedge Max

- Available to Sell at Fixed Price
- Fixed Price Block Contracts
- Market Based Slice
- Long-term Cost Plus Slice
- Canadian Entitlement
- Local Load

—●— Hedge Max Fixed + Index

- Available to Sell at Index Price
- Available to Sell at Fixed Price
- Index Price Block Contracts (Includes Off-System End-Use)
- Fixed Price Block Contracts
- Market Based Slice
- Long-term Cost Plus Slice
- Canadian Entitlement
- Local Load

Proposed Modeling Language Changes

- District staff proposes the removal of specific language referring to probabilistic modeling
- Proposed resolution language includes:
 - “The Power Risk Management Committee will have oversight responsibilities over modeling techniques and methods used to model the District’s load and resource balance and net wholesale revenue for the District’s financial forecast model.”
 - “Expanding the use of various techniques and methods supports continuous improvement of capabilities and is beneficial for analysis and decision-making.”

Next Steps

- Wholesale energy trading resolution introduced today
- RCW requires a 10-day waiting period prior to approval
- Approval will be requested at the March 16 board meeting

Summary

- Proposed resolution addresses current market environment conditions
 - Separates fixed price transactions from index price transactions recognizing their different characteristics
 - Provides for more conservative limits, mitigating the risk of purchasing at high market prices while accepting more revenue volatility
 - Allows for modeling choices to be made at the Power Risk Management Committee level providing flexibility to determine the best approach for the type of analysis
- Questions?