

# FEI 2016 Rate Design Application

## Transportation Service - Streamlined Review Process

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# Transportation Service Review – SRP

## **Information Session & Stakeholder Workshop – 2016**

- Inform and Review Transportation Service
- Discussion Guide for Workshop
- Key Issues/Topics for Discussion

## **Application – Exhibit B-1, Section 10**

## **Post Application Workshops – early 2017**

## **Reviewed by External Consultants**

- Black & Veatch
- Elenchus

## **Two Rounds of Information Requests**



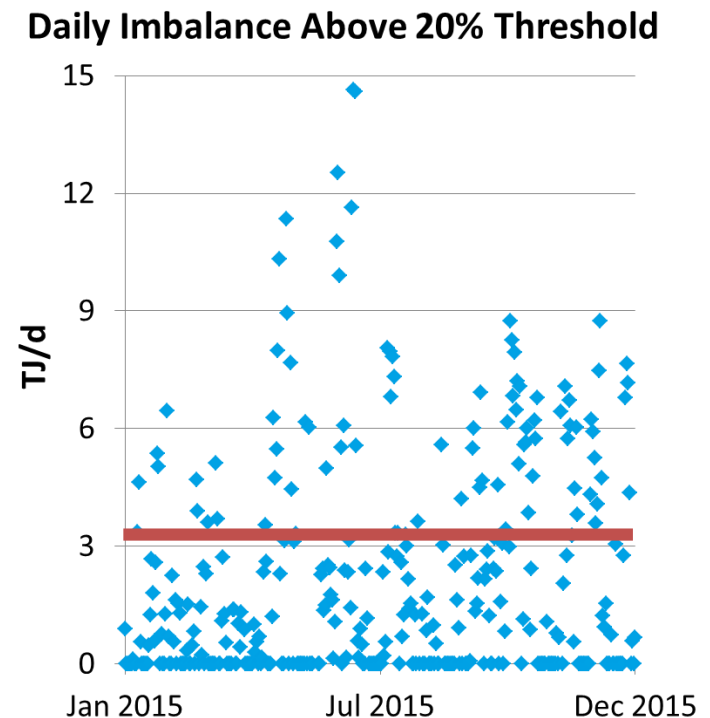
# Black & Veatch – The Need for Balancing

Balancing refers to the daily matching of deliveries of natural gas supplies to FEI's distribution system from various upstream sources with the aggregate daily demands of its customers

- Performance of this daily balancing function ensures reliable gas supplies are available for both FEI's sales and transportation customers
- FEI must balance its system daily in conformance with the requirements of upstream long-haul transportation pipelines
- FEI's transportation customers deliver and receive differing amounts of natural gas on a day-to-day basis, contributing to system imbalances
- FEI uses the midstream assets that serve sales customer demands (e.g., leased storage injections or withdrawals) to balance the system
- Two types of balancing charges are common in the utility industry
  - Balancing Service Charges levied on all volumes transported
  - Tiered balancing tolerance levels with associated charges

# Black & Veatch Analysis: Replacement Cost

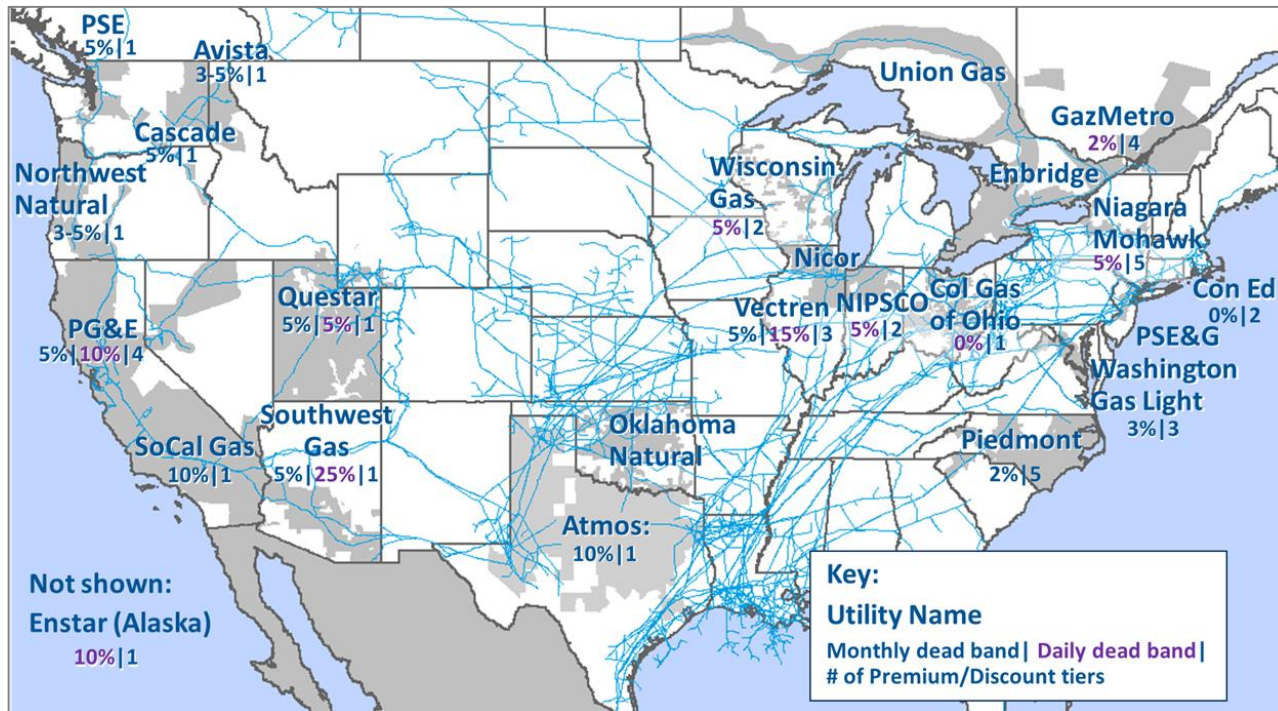
- Initially developed a replacement cost methodology to place a value on FEI's balancing services
- Based on assumption that if balancing services were not offered by FEI, shipper agents would procure their own firm resources to meet their balancing needs 75% of the time
  - Trade off between risk of incurring imbalance charges and over-contracting for firm resources



# Black & Veatch Analysis: Tolerance Level

- Based on feedback from the August 12, 2016 workshop, FEI and Black & Veatch began to focus on where to set the balancing tolerance level rather than determining an optimal charge for balancing services
- Compared FEI's daily balancing tolerance level to its industry peers, since daily balancing predominates across North America
- Assessed the capabilities of FEI's shipper agents to balance to 10% and 20% daily threshold levels using historical data (see "Balancing Tolerance" section)

# Black & Veatch Analysis: Tolerance Level



See notes to Figure 1 in Black & Veatch's Transportation Service Model Review report

- FEI's current balancing tolerance level of 20% is high by industry standards
- A common tolerance level is 5%, which is viewed as an industry standard, with 10% being another less common threshold on the high-end
- Utilities with no specified daily tolerances provide daily balancing services for fee (e.g., PSE) or balance on their affiliated upstream pipelines

# FEI's Transportation Service Proposals

As presented in the Application

1

- Eliminate monthly balancing

2

- Amend balancing tolerance from 20% to 10%

3

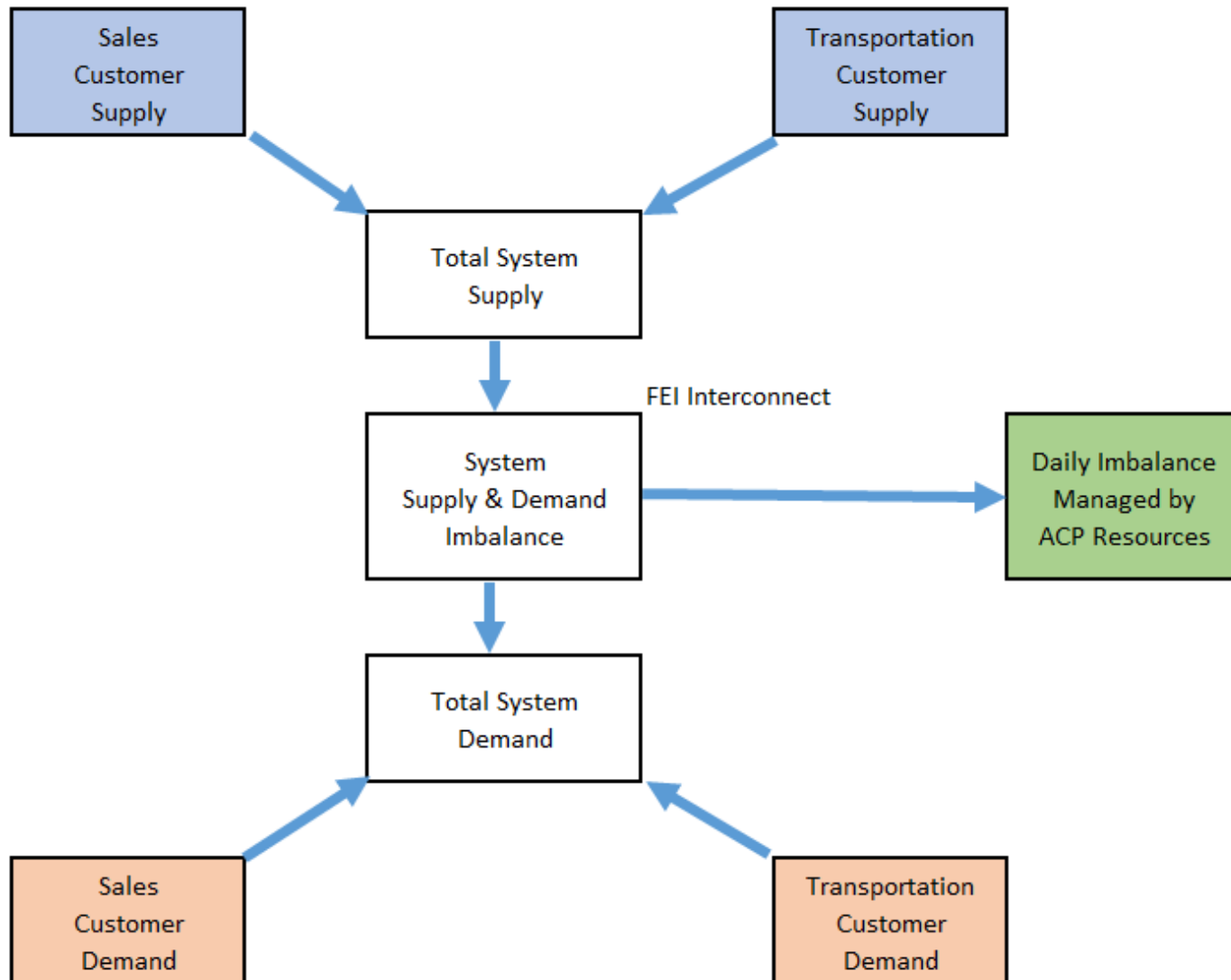
- Implement tiered balancing charges

# What is balancing and trending to zero?





# FEI Daily Load Balancing Function Overview



# #1 Daily and Monthly Balancing

# History of Balancing Provisions



**Daily and monthly balancing provisions exist**

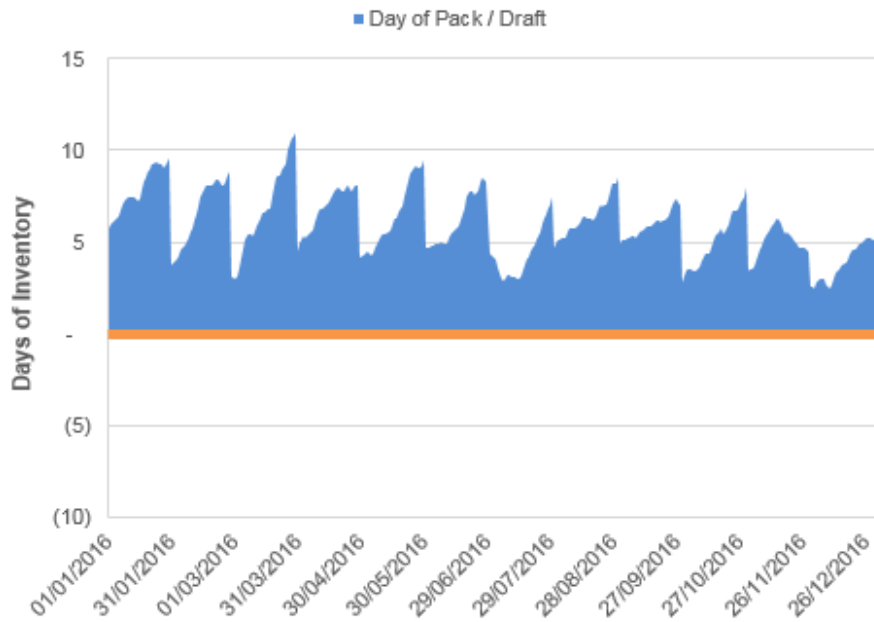
**RS 22 daily balanced**

**RS 23, 25, 26 and 27 balance monthly**

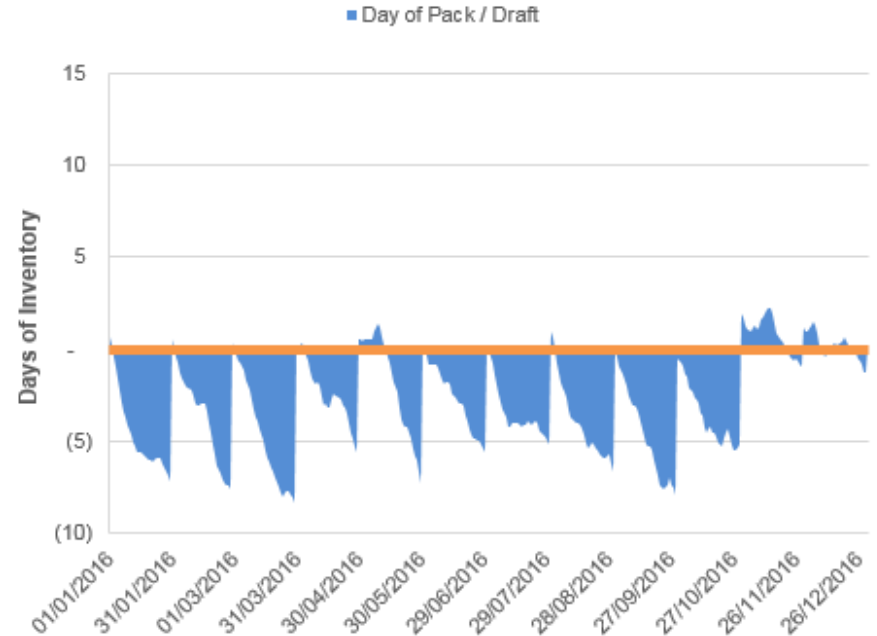
**Rules and charges**

# Different Balancing Practices

Daily Balanced Groups (2016)

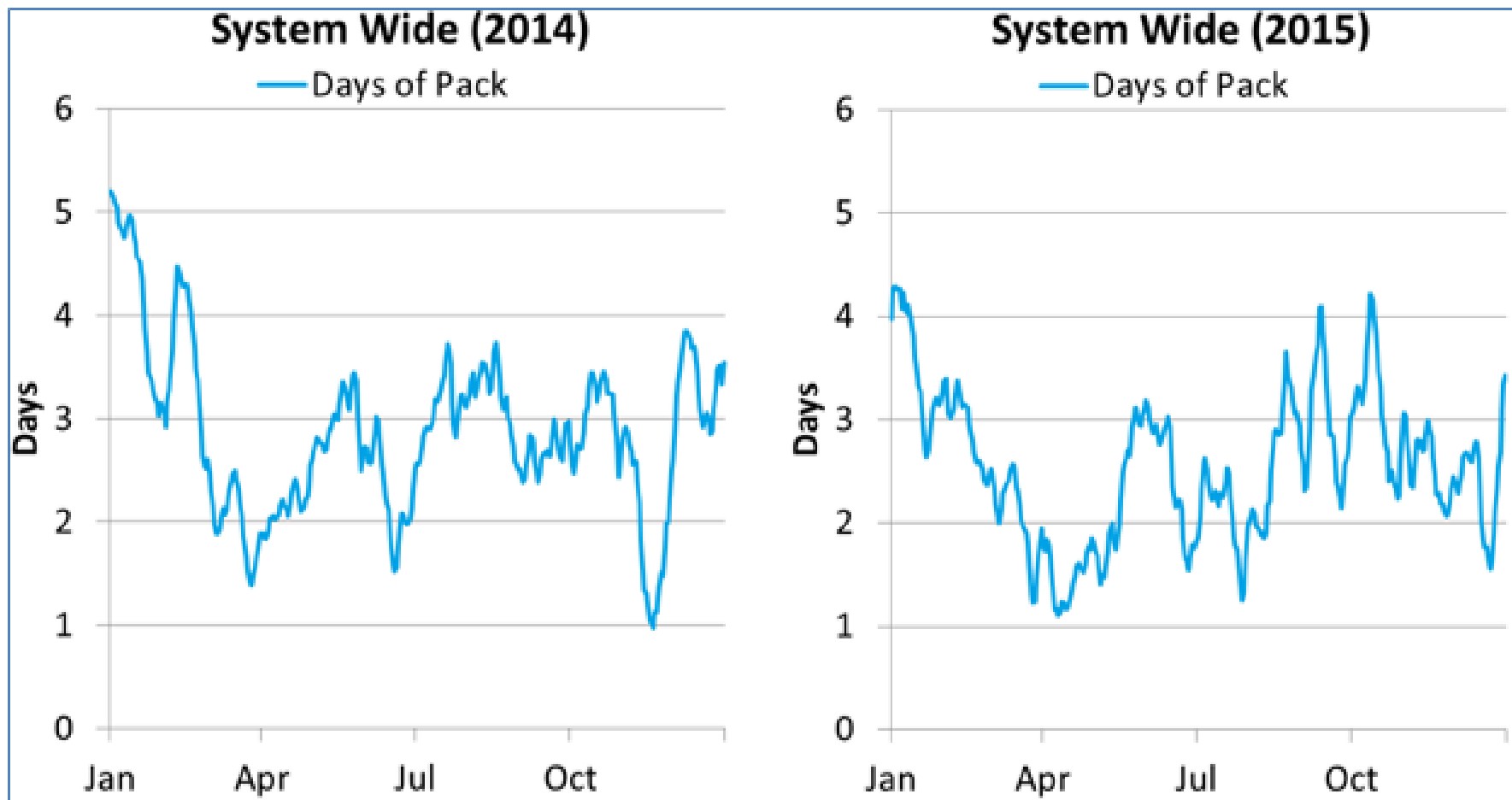


Monthly Balanced Groups (2016)



# Daily and Monthly Combined

Days of Supply Held on Behalf of all Shipper Agents on FEI's System



Ref: Ex. B-1, Figure 10-6

# Balancing Options

1

**Status Quo**

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2

**Modified Monthly**

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3

**Daily Balancing**

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# Reasons for Daily Balancing

## **Daily balancing is industry practice**

- FEI is held to daily balancing

## **Tools now exist**

- Marketers balancing daily today

## **Fairness**

- All held to unified set of rules

# Reasons for Daily Balancing

## **Reduce arbitrage**

- At expense of sales customers

## **Improved system efficiency**

- Less reliance on Midstream resources

## **Stakeholder feedback**



## #2 Balancing Tolerance

# Daily Balancing Surcharge Calculation

## Actual Imbalance

Actual Supply	10,000	← gas the marketer brought on at the interconnect
Actual Demand	15,000	← gas the customer burned
(Under)/Over Deliveries	(5,000)	← this is the under-delivery that FEI must balance

## Surcharge Threshold Calculation

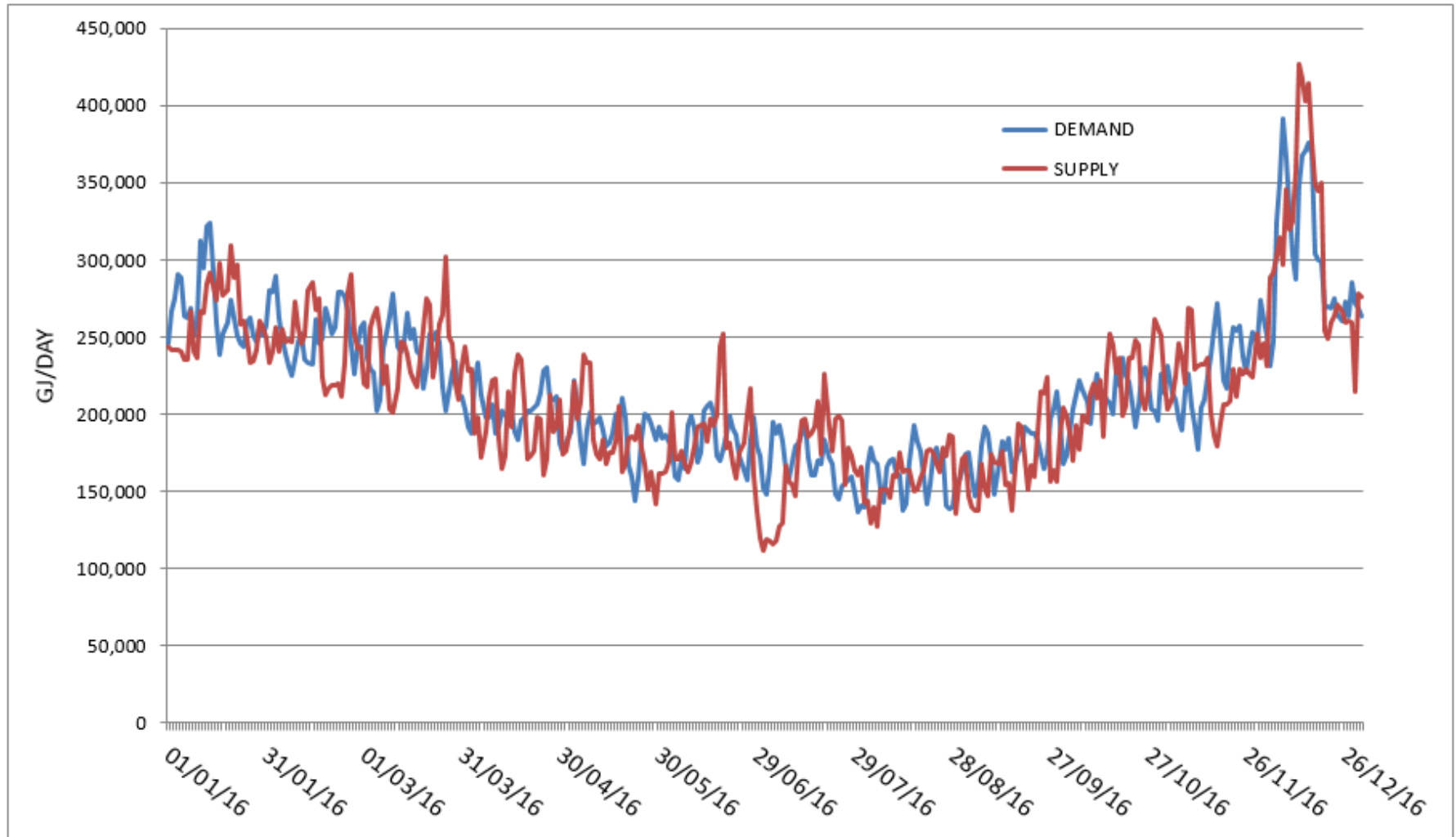
*Tariff language*

Actual Supply x 120%	12,000	← greater of the two
OR		
Actual Supply + 100GJ	10,100	

Surcharge Threshold	12,000	
Actual Demand	15,000	
(Under)/Over Threshold	(3,000)	← used to calculate surcharge

<b>Surcharges Incurred</b>	<b>3,000</b>	← surcharge price applied to this quantity
Winter Charge (\$1.10/GJ)	\$ 3,300	
Summer Charge (\$0.30/GJ)	\$ 900	

# Total Transportation Daily Imbalances



# Balancing Tolerance Options

**1**

**Status quo**

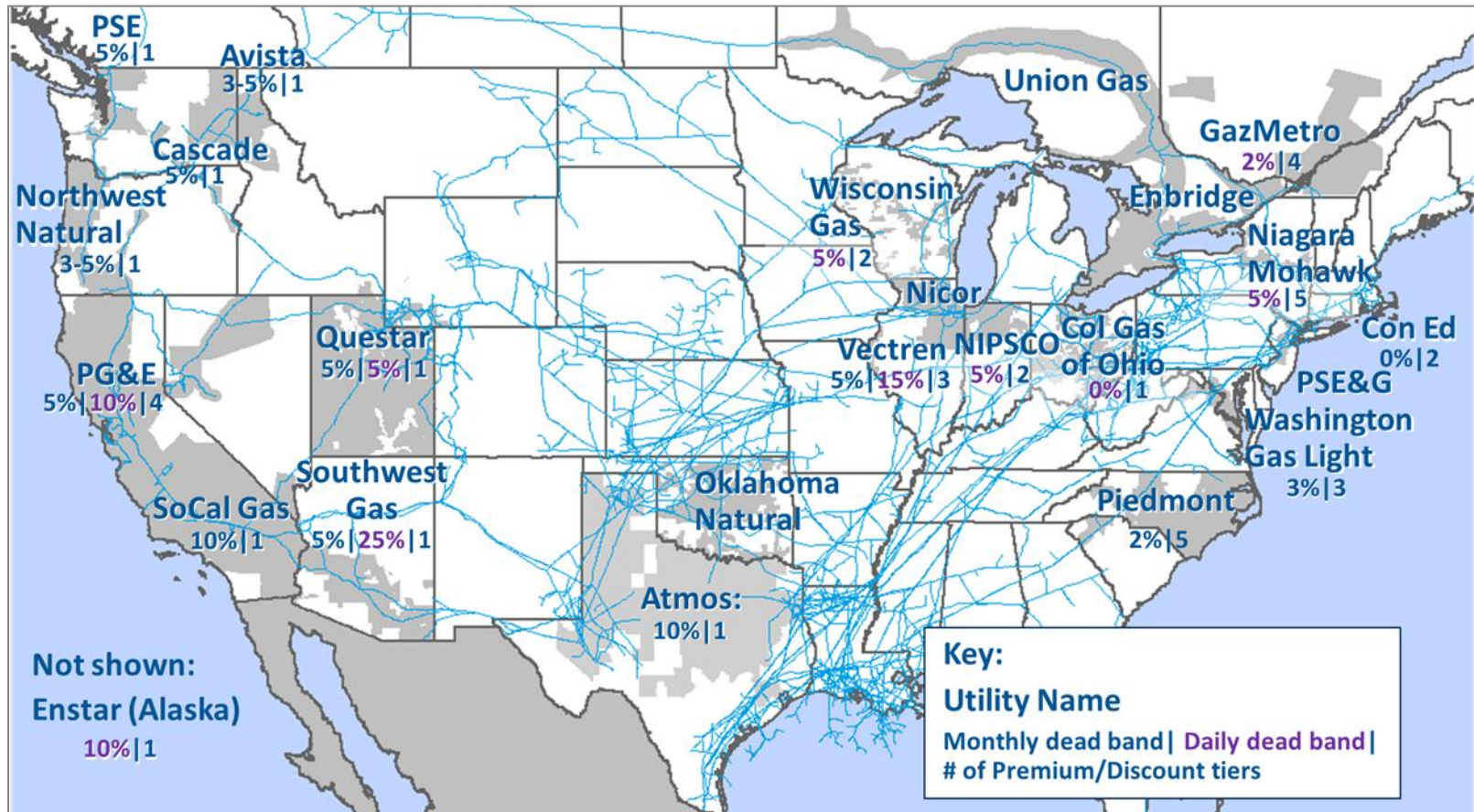
**2**

**Balancing fee**

**3**

**Tighten the tolerance to 10%**

# Industry Review – Black & Veatch



# Managing to 10% today

Shipper Agent	Daily / Monthly	Service Area	# Imb Days / Year	Demand / Day
Shipper Agent N	M	INL	287	8
Shipper Agent N	M	LML	219	230
Shipper Agent M	M	LML	216	467
Shipper Agent I	D & M	INL	210	414
Shipper Agent E	D & M	INL	203	2,128
Shipper Agent C	D & M	LML	185	13,829
Shipper Agent O	M	LML	170	124
Shipper Agent D	D & M	INL	169	3,401
Shipper Agent D	D & M	LML	161	14,446
Shipper Agent E	D & M	LML	149	13,008
Shipper Agent FEI	M	LML & INL	148	3,833
Shipper Agent A	D & M	LML	137	19,970
Shipper Agent C	D & M	INL	115	8,173
Shipper Agent I	D & M	LML	109	2,591
Shipper Agent H	D	INL	17	5,293
Shipper Agent B*	D & M	INL	12	15,191
Shipper Agent A*	D & M	INL	11	10,978
Shipper Agent F	D	INL	7	14,602
Shipper Agent B	D	LML	5	15,641
Shipper Agent K	D	INL	4	1,199
Shipper Agent L	D	LML	3	1,155
Shipper Agent H	D	LML	1	3,027
Shipper Agent G	D	INL	1	9,830
Shipper Agent J	D	LML	1	1,435

# #3 Balancing Charges

# Balancing Tolerance Charges

Tolerance Range	Winter Charge (\$/GJ)	Summer Charge (\$/GJ)
Tier 1: 0-10%	no charge	no charge
Tier 2: 10-20%	\$0.25	\$0.25
Tier 3: 20%+	\$1.10	\$0.30



# Tiered Approach - Impact/Rationale



- **Price signal**



- **More efficient use of FEI's midstream resources**



- **Credit to midstream portfolio**

# Balancing Tolerance Charges

Sumas Price (US\$/MMBtu)	NWP Com. Charge	NWP Fuel	Storage Fuel	Incremental Variable Costs (US\$/MMBtu)	Incremental Variable Costs (CAD\$/GJ)
\$2.50	\$0.06	\$0.07	\$0.04	\$0.16	\$0.20
\$3.00	\$0.06	\$0.08	\$0.04	\$0.19	\$0.23
\$3.50	\$0.06	\$0.10	\$0.05	\$0.21	\$0.25
\$4.00	\$0.06	\$0.11	\$0.06	\$0.23	\$0.28
\$4.50	\$0.06	\$0.12	\$0.07	\$0.25	\$0.31
\$5.00	\$0.06	\$0.14	\$0.07	\$0.27	\$0.33

# Transportation Proposal Summary

**1. Eliminate monthly balancing**

**2. Amend balancing tolerance from 20% to 10%**

**3. Implement tiered balancing charges**



**For further information,  
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