

**BEFORE THE WASHINGTON
UTILITIES AND TRANSPORTATION COMMISSION**

**WASHINGTON UTILITIES AND
TRANSPORTATION COMMISSION,**

Complainant,

v.

PUGET SOUND ENERGY,

Respondent.

DOCKET UG-230968

**WG-3 EXHIBIT (NONCONFIDENTIAL) TO THE
PREFILED DIRECT TESTIMONY OF**

WILLIAM GEHRKE

ON BEHALF OF JOINT ENVIRONMENTAL ADVOCATES

July 17, 2024

**Joint Environmental Advocate
Docket UG 230968 - Exh WG-3
CCA RSM Formula**

Line . No	Range				Company		Customer		
	Band <i>a</i>	Ceiling <i>b</i>	Floor <i>c</i>		\$ pay <i>d</i>	Sharing % <i>e</i>	\$ pay <i>f</i>	Sharing % <i>g</i>	
1	Band Alpha	X = Compliance Max Ceiling	X = $\mu + (97.5\text{th } \sigma)$		X = Band Alpha Expenses × Company's % Sharing Amount	X = 30%	X = Band Alpha Expenses × Customer's % Sharing Amount	X = 70%	
2	Deadband	X = Band Alpha Floor - \$0.01	X = Compliance Min. Floor		X = Deadband Expenses × Company's % Sharing Amount	X = 0%	X = Deadband Expenses × Customer's % Sharing Amount	X = 100%	
3									
4	<u>Notes:</u>								
5	Unit costs of each compliance instrument is subject to the sharing bands.								
6	Subject to a JEA earnings test.								
7	<u>Definitions</u>								
8	Band Alpha Expenses	X = Sum of CCA compliance expenses where unit costs \geq Band Alpha Floor							
9	Deadband Expenses	X = Sum of CCA compliance expenses where unit costs $<$ Band Alpha Floor							

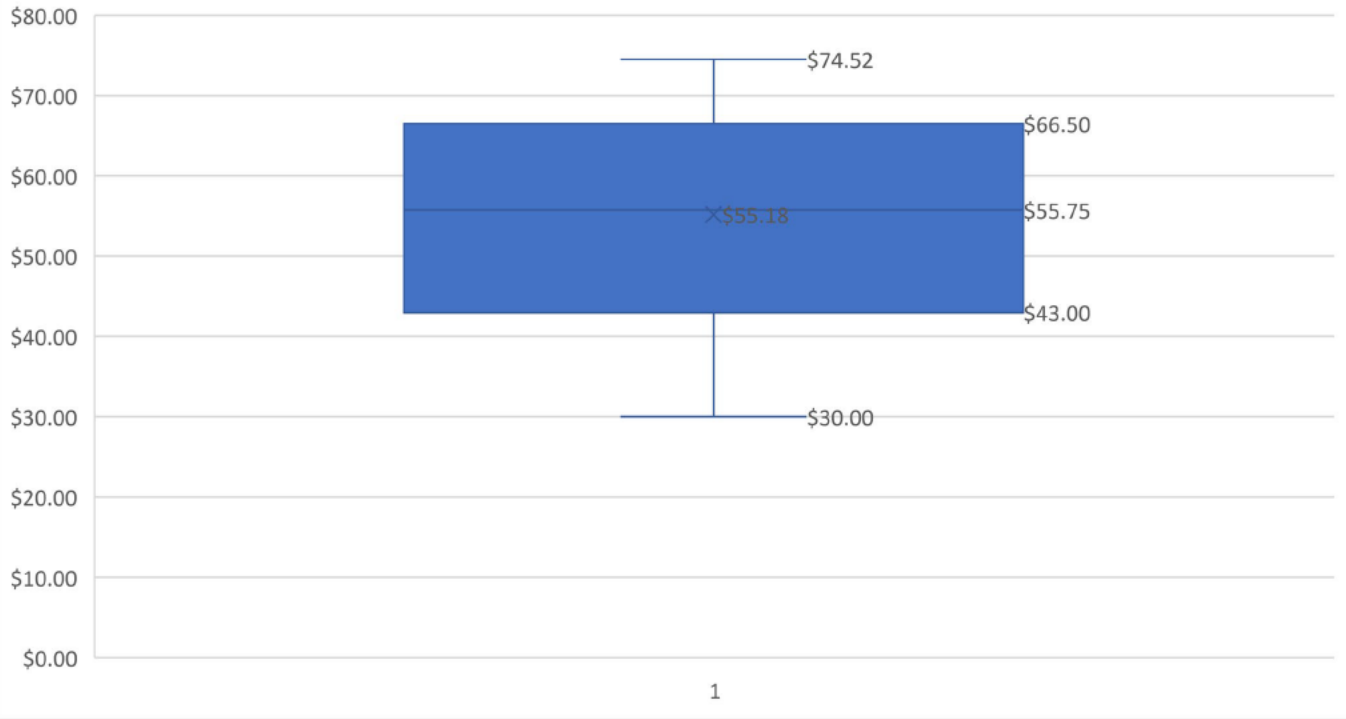
**Joint Environmental Advocates
Docket UG 230968 - Exh WG-3
2023 to 2024 Vintage Secondary Market Price (January 2023 to June 15th, 2024)**

Line No.	Description	Amount	Notes
a		b	c
1	<i>First Compliance Period Information</i>		
2	Market Ceiling	88.15	*
3	Market Floor	22.2	**
4			
5			
6	<i>2023 to 2024 Vintage Secondary Market Price (January 2023 to June 15th, 2024)</i>		***
7	Maximum Price	\$74.52	
8	Minimum Price	\$30.00	
9	Median Price	\$55.75	
10	Mean Price	\$55.18	
11	Price Range	\$44.52	
12	Variance	\$140.34	
13	Standard Deviation	\$11.85	
14	Sample Size	558	
15	Z-Score	1.40	71.75
16	25th Percentile (Q1)	43.00	
17	75th Percentile (Q3)	66.50	
18	97.5 Percentile	78.40	Z=1.96
19	Interquartile Range	23.50	

Notes

- * JEA mechanism would use compliance period market ceiling price
- ** JEA mechanism would use compliance period floor ceiling price
- *** These numbers would use secondary market prices for the compliance period

2023-2024 Secondary Market Price Boxplot

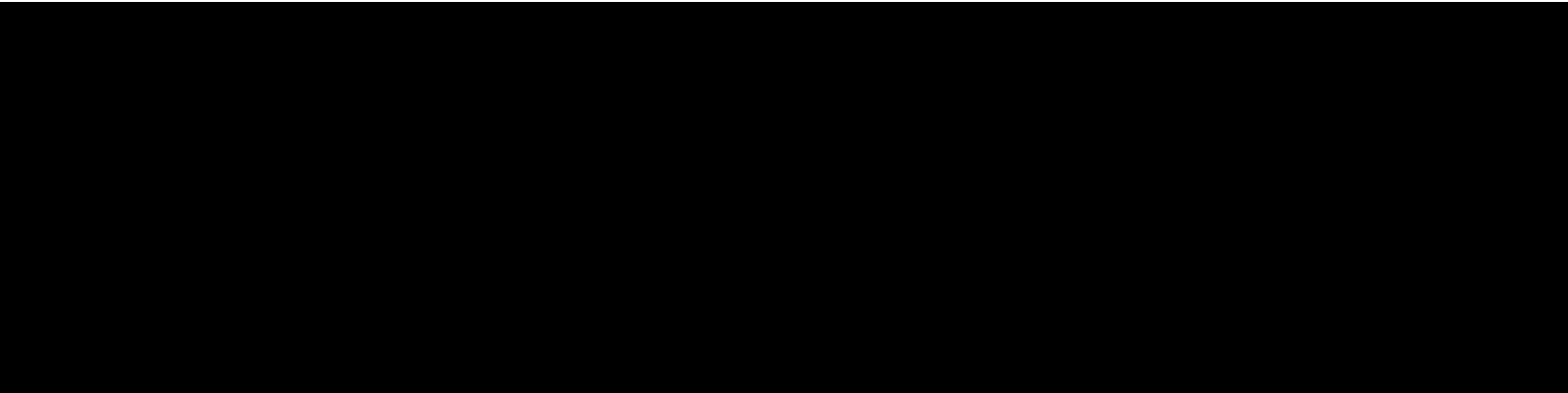


**Joint Enviromental Advocates
Docket UG-230968 - Exh WG-3C
RSM Band Information & Calculation**

Range (based on 2023- June 2024 Values)				PSE	Customer
Line No	Band	Ceiling	Floor	Sharing Percentage	Sharing Percentage
	a	b	c	d	e
1	Alpha	\$88.15	\$78.40	30.00%	70.00%
2	Deadband	\$78.39	\$22.20	0.00%	100.00%
3					
4	Results			PSE Sharing	Customer Sharing
5	Alpha				
6	Deadband				

**Joint Environmental Advocates
Docket UG-230968 Exh WG-3C
Gas LDC Carbon Allowance Tracking**

Trade Date	Counterparty	Auction/Bilateral/ ICE/Broker	Purchased Quantity	WCA Unit Cost	Total Cost
f	g	h	i	j	k



**Joint Environmental Advocates
Docket UG-230968 Exh WG-3
RSM Band Information & Calculation**

<i>Hypothetical</i>						
		PSE			Customer	
Line No	Band	Ceiling	Floor	Sharing Percentage	Sharing Percentage	
	a	b	c	d	e	
1	Alpha	\$103.20	\$78.40	30.00%	70.00%	
2	Deadband	\$78.39	\$22.20	0.00%	100.00%	
3	Results			PSE Sharing	Customer Sharing	
4	Alpha			928,800	2,167,200	
5	Deadband			0	60,000,000	

Assumptions:

CPI-U - Inflation is 3.2% over compliance period

*Therefore, 2026 Price Ceiling Floor is 2023 Price Ceiling Unit - $\$81.47 * 1.082^3 = 103.20$ used in this example*

Band Alpha Floor is based on 2023 and 2024 data.

In practice, this would use historical data for secondary market prices in compliance period

**Joint Environmental Advocates
Docket UG-230968 Exh WG-3
Gas LDC Carbon Allowance Tracking**

Hypothetical

Example of Risk Sharing Mechanism Triggering in First Compliance Period

	Type	Purchased Quantity	Unit Cost	Total Cost
Price Ceiling Unit - First Compliance Period	PCU	30000	103.2	3096000
All other compliance costs *				6000000
Total compliance costs - Four Year				<u>63096000</u>

Note:

* In this example, all other compliance costs are within the deadband

**Joint Environmental Advocates
Docket UG-230968 - Exh WG-3
Earnings Test Allocation**

Line No. a b c d

1 Company Sharing Amount

2 \$ 928,800 <- From PCU Example

3	Allocated Sharing Amount by Year			
4	2023	2024	2025	2026
5	\$ 232,200	\$ 232,200	\$ 232,200	\$ 232,200

**Joint Environmental Advocates
Docket UG-230968 - Exh WG-3
Gas Earnings Test
2023 Example**

Line No.	Description	Notes		
a		b	c	
1	Net Operating Income	Commission Basis Report 1.01		\$189,980,633
2	Interest Expense	Commission Basis Report 1.01		\$76,818,082
3	Net Operating Income Less Interest Expense	Line 1 - Line 2		\$113,162,550
4	Restated Rate Base	Commission Basis Report 1.01	\$	2,920,839,628
5	Actual Equity Percent	Commission Basis Report 1.01		49.29%
6	Equity Rate Base	Line 4 * Line 5	\$	1,439,681,853
7	Restated Return on Actual Equity	Line 3 / Line 6		7.86%
8	Authorized Return on Equity	(Source: UE-220066 and UG-220067)		9.40%
9	Return on Equity Earnings Test	Line 8 - 0.50%		8.90%
10	Earnings Test	If Line 6 <= Line 9, no sharing. If Line 6 > Line 9 then sharing occurs up to Adjusted Net Income up to Line 9		
11	2023 Allocated Sharing Amount	Earning Allocation for 2023	\$	232,200
12	Risk Borne by the Company in 2023	Since Line 7 (7.86%) <= Line 9 (8.90%), no sharing occurs		

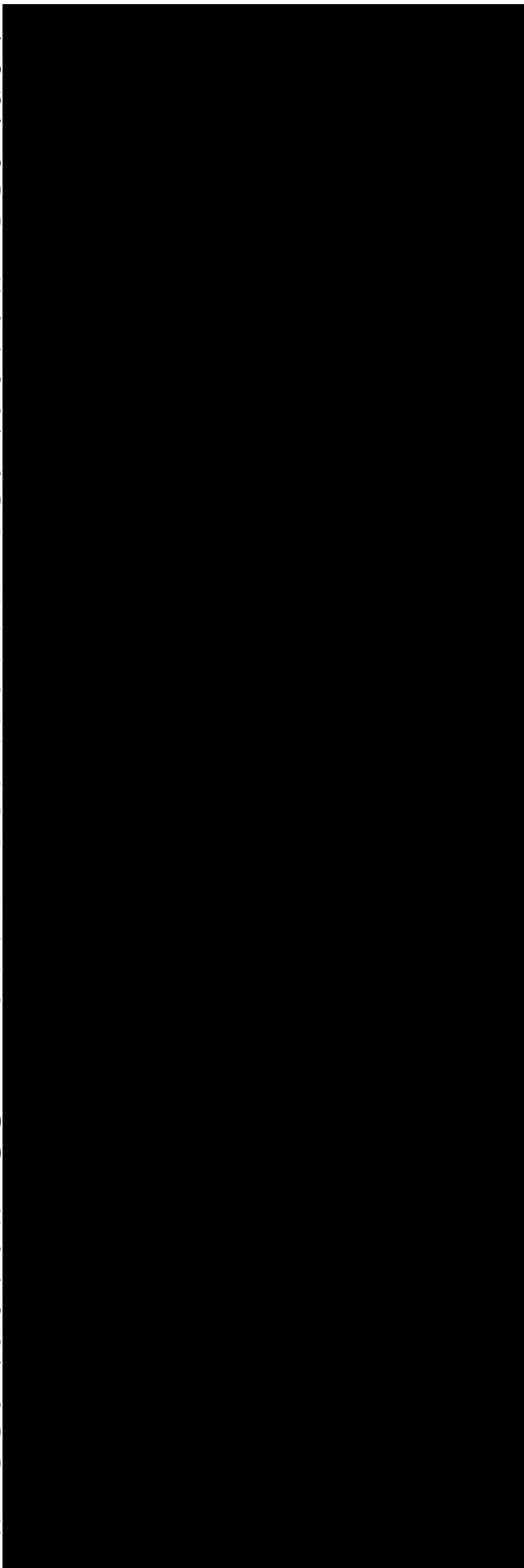
**Joint Environmental Advocate
Docket UG-230968 - Exh WG-3
Gas Earnings Test
2023 Example - Second Example - Hypothetical Numbers**

Line No.	Description	Notes		
	a	b	c	
1	Net Operating Income	Commission Basis Report 1.01		\$212,148,176
2	Interest Expense	Commission Basis Report 1.01		\$76,818,082
3	Net Operating Income Less Interest Expense	Line 1 - Line 2		\$135,330,094
4	Restated Rate Base	Commission Basis Report 1.01	\$	2,920,839,628
5	Actual Equity Percent	Commission Basis Report 1.01		49.29%
6	Equity Rate Base	Line 4 * Line 5	\$	1,439,681,853
7	Restated Return on Actual Equity	Line 3 / Line 6		9.40%
8	Authorized Return on Equity	(Source: UE-220066 and UG-220067)		9.40%
9	Return on Equity Earnings test	Line 8 - 0.50%		8.90%
10	Earning Test	If Line 6 <= Line 9, no sharing. If Line 6 > Line 9 than sharing occurs up to Adjusted Net Income up to Line 9		
11	2023 Allocated Sharing Amount	Earning Allocation for 2023	\$	232,200
12	Earning Test	Since Line 7 (9.40%) > Line 9 (8.90%), sharing occurs		
13	Risk borne by Company in 2023		\$	232,200

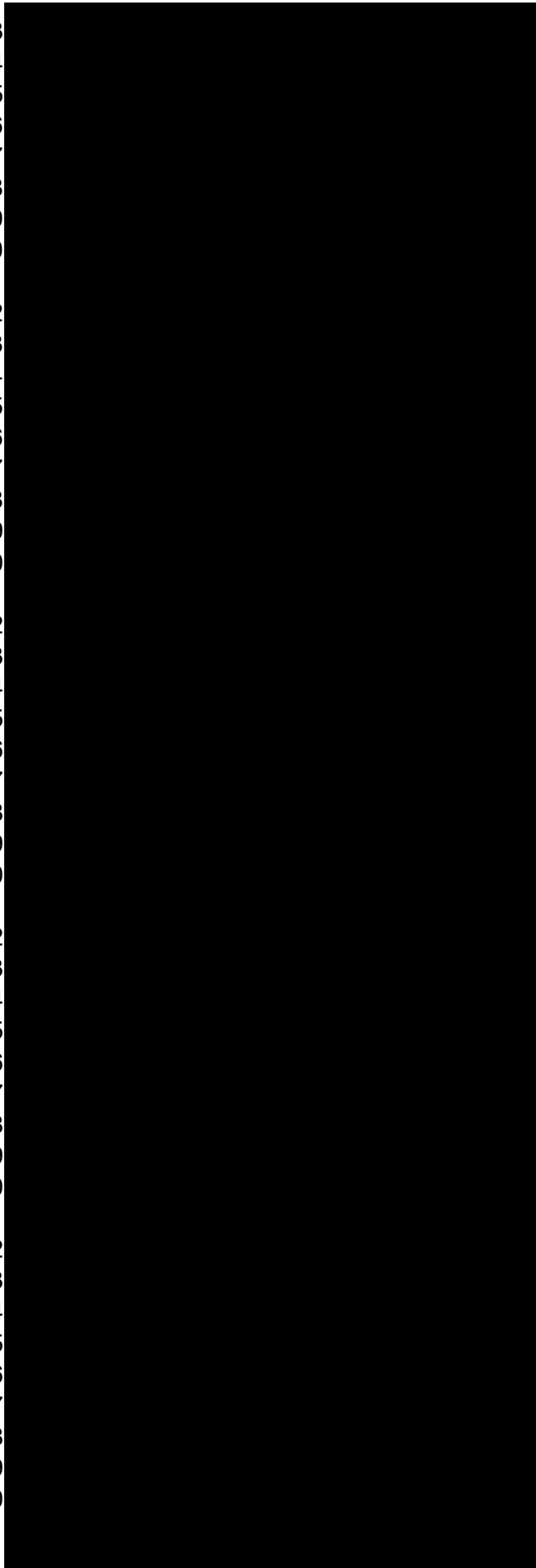
**Joint Environmental Advocates
Docket UG-230968 - Exh Exh WG-3C
Nodal Exchange WCA Prices**

Line No.	Vintage Year	Trading Date	Price
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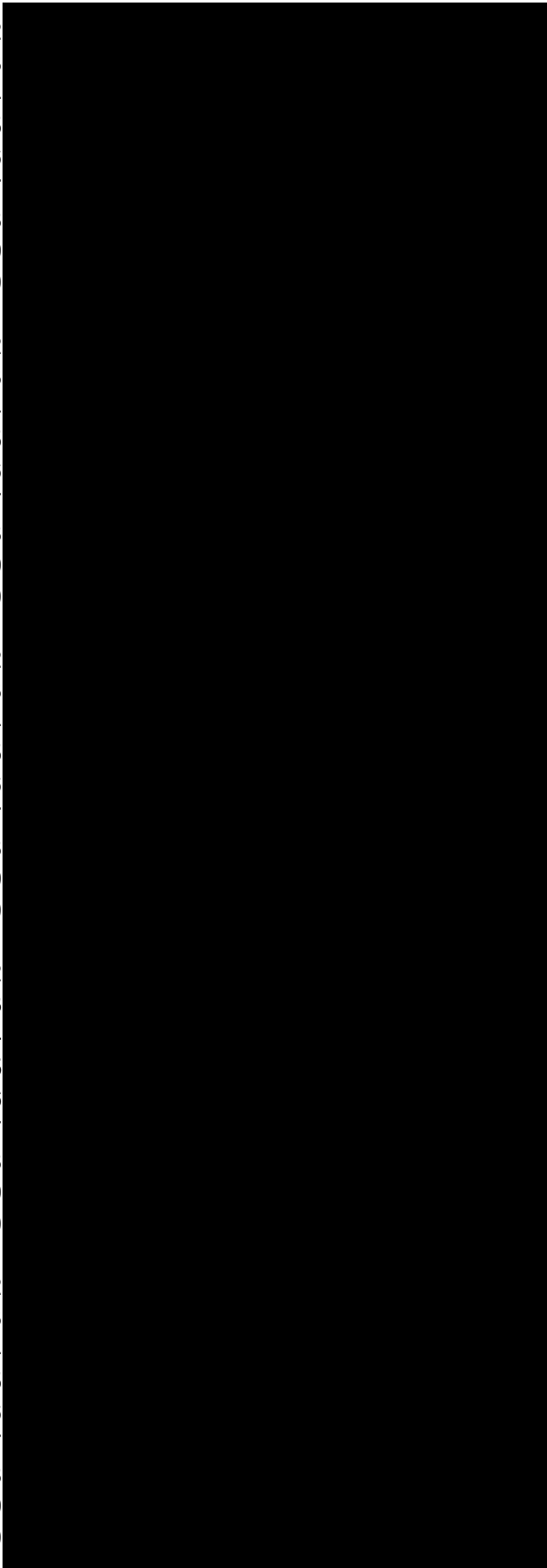
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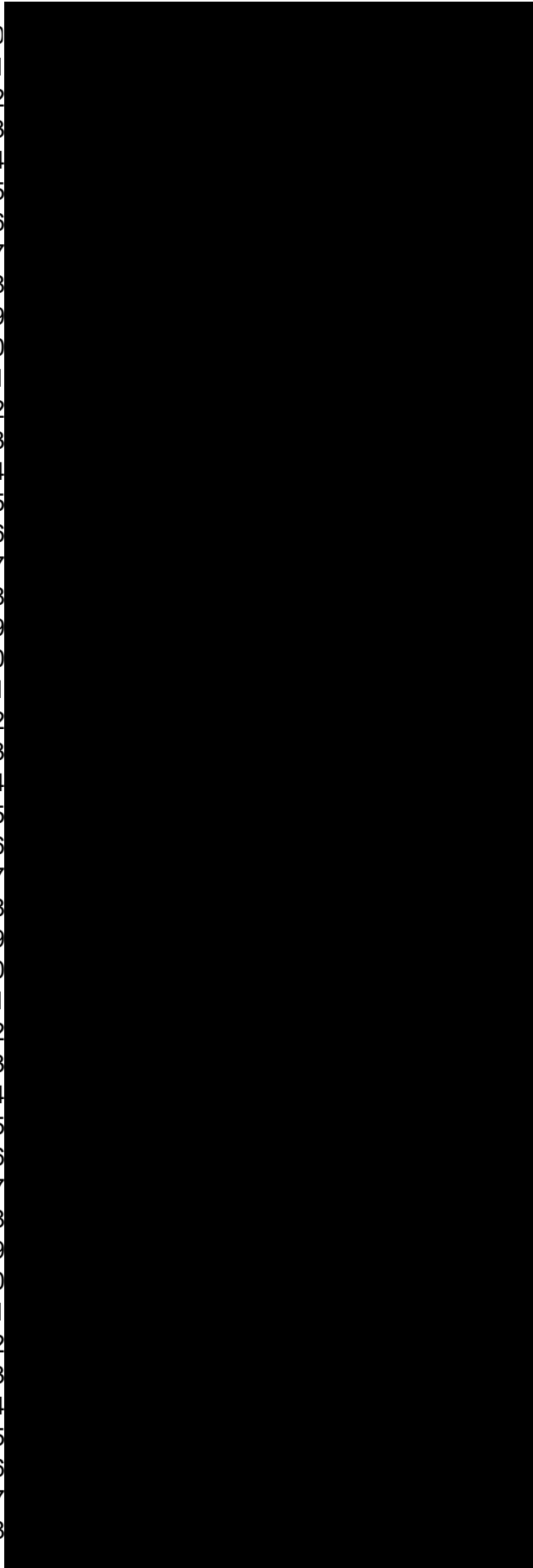
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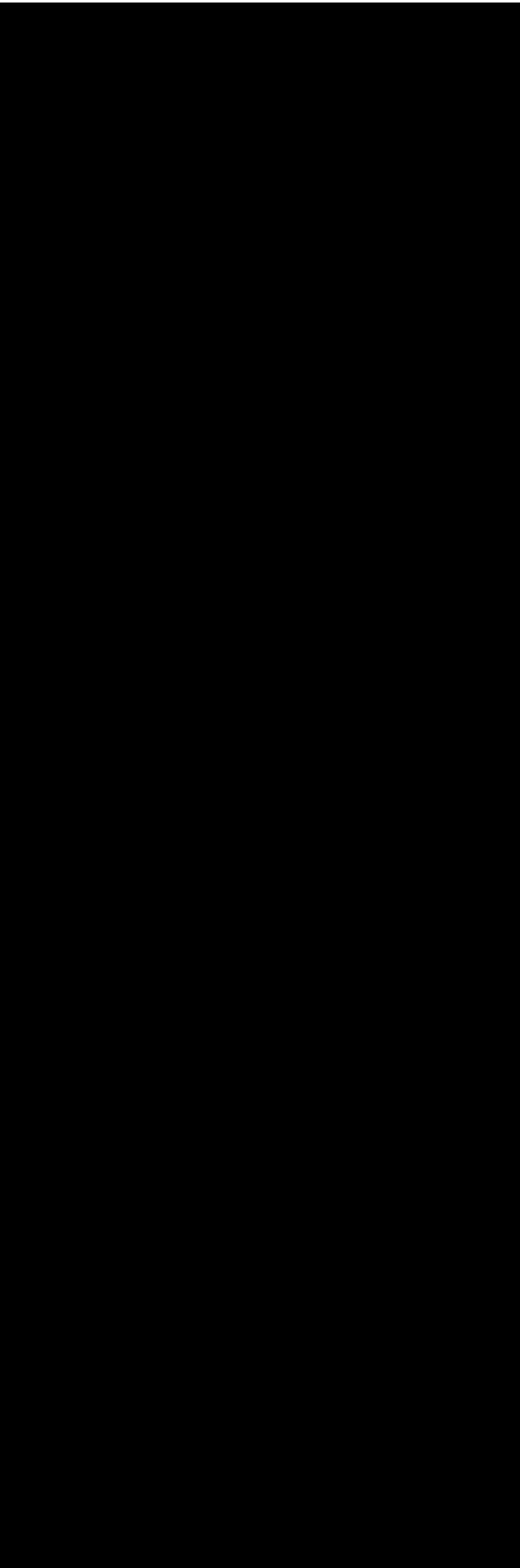
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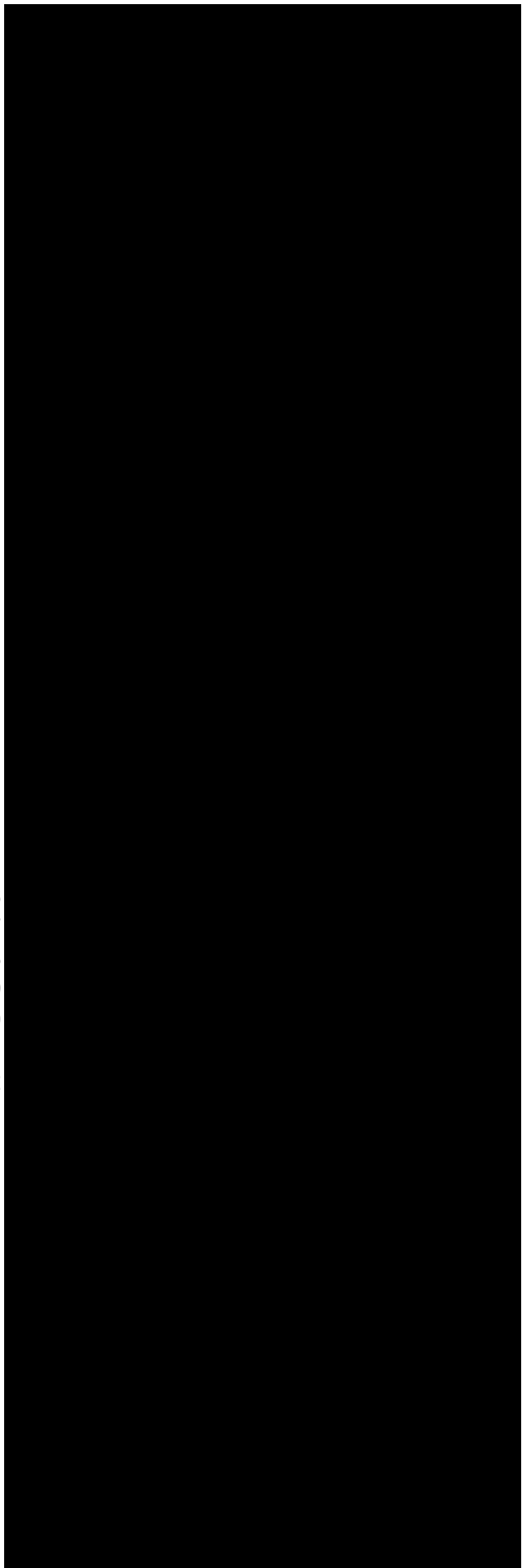
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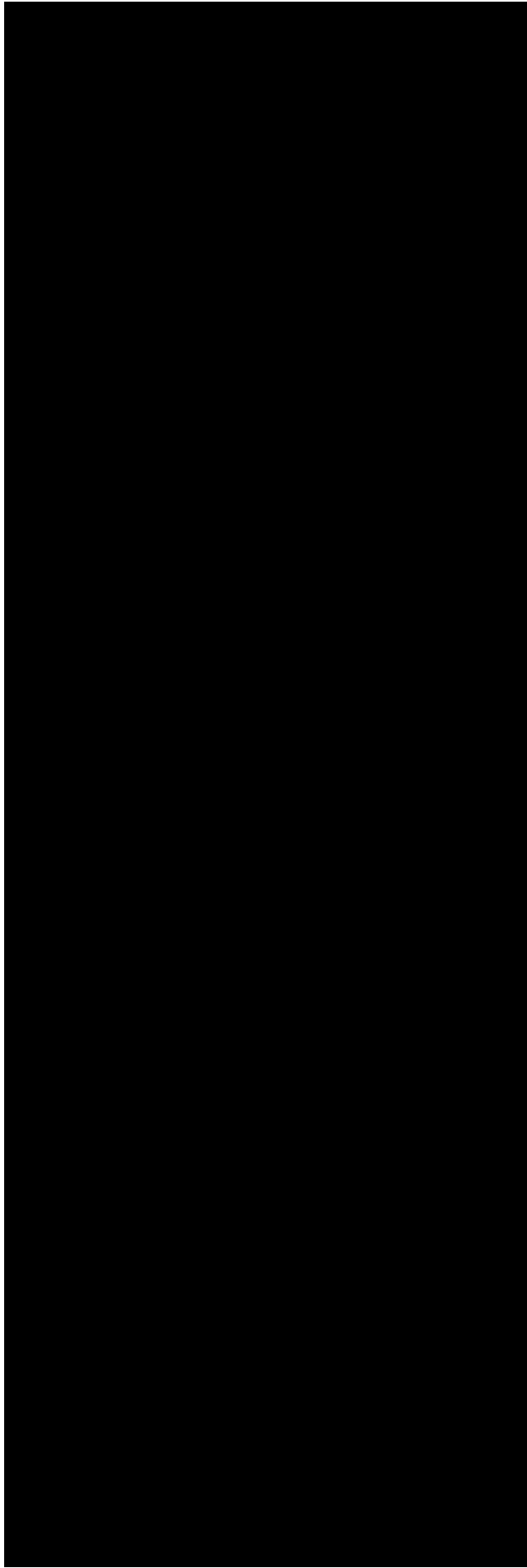
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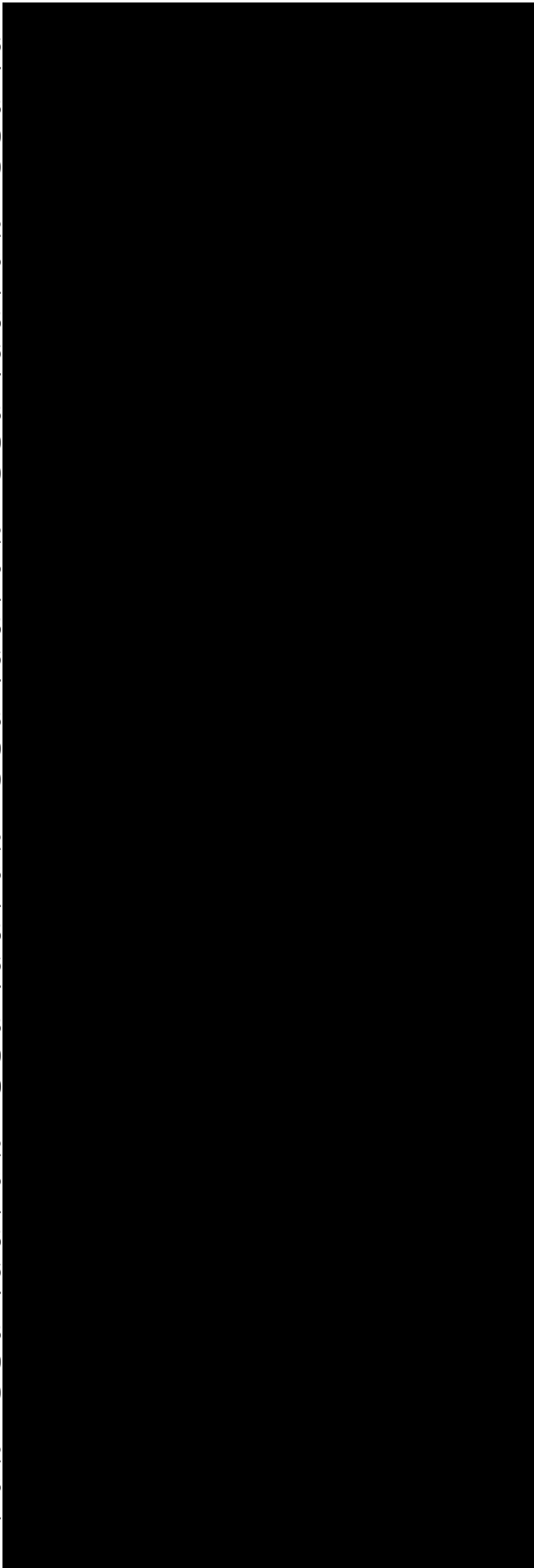
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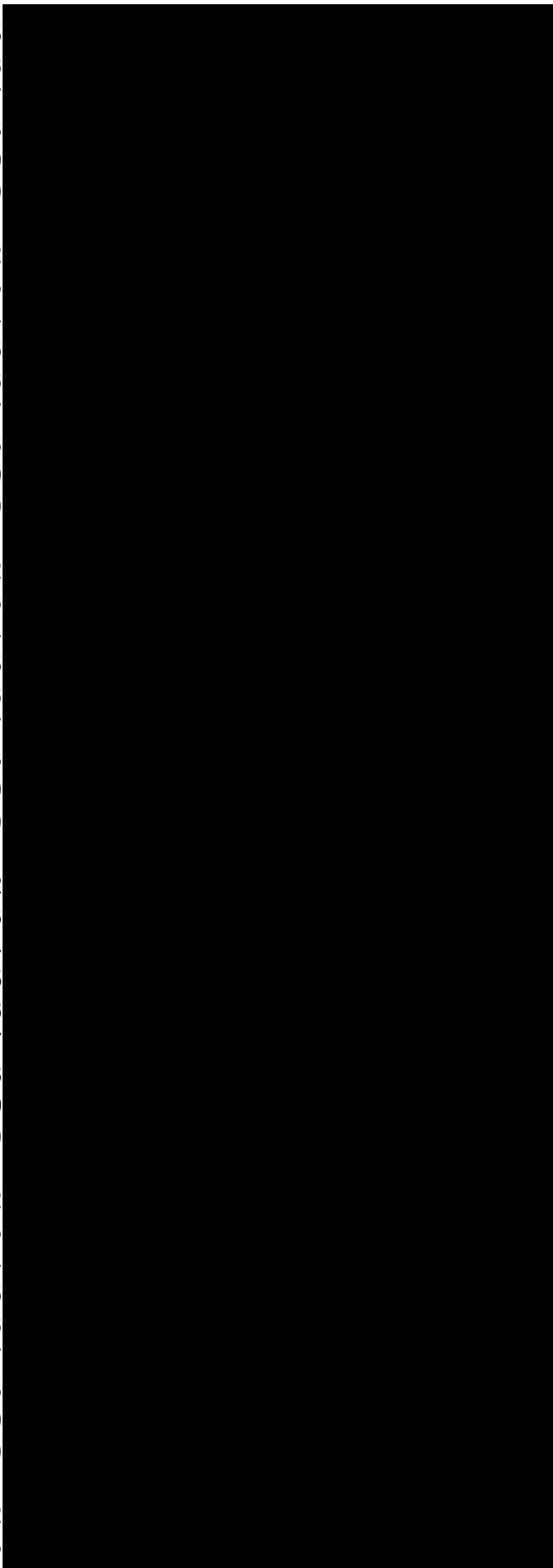
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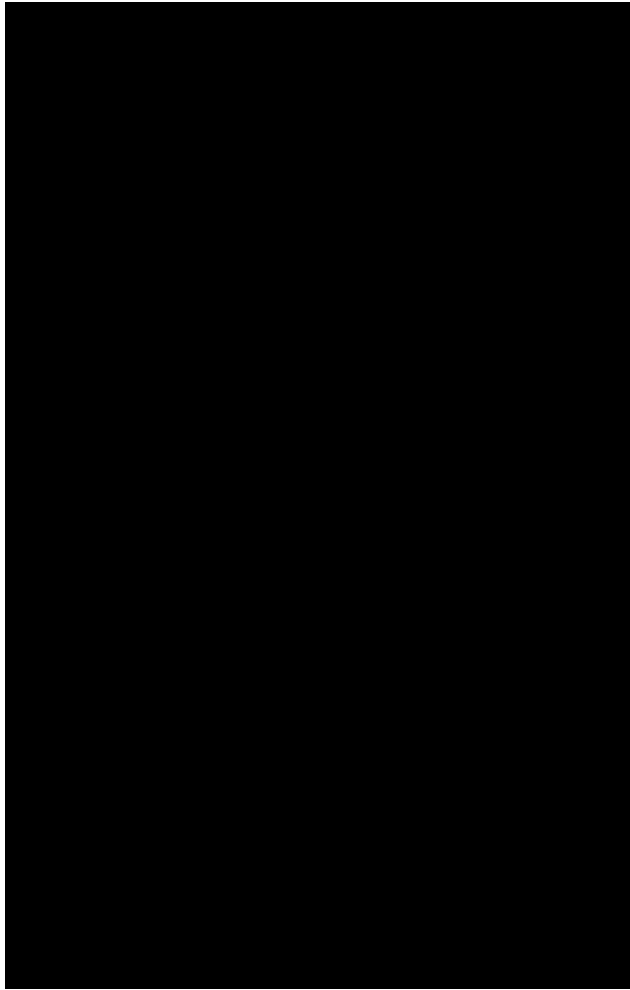
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* Note that ACP awarded allowances are transferred from ECY directly to the Compliance Account

Shaded Information is Designated as CONFIDENTIAL per Protective Order in Docket UG-230968

PURCHASES

Deal #	Trade Date	Delivery Date	Vintage Year	Counterparty	Auction/Bilateral/ ICE/Broker	Purchased Quantity	WCA Unit Cost	Total Cost	Broker	Broker Fee
a	b	c	d	e	f	g	h	i	j	k
1			2023							
2			2023							
3			none							
5			2023							
6			2023							
7			2023							
8			none							
10			2023							
11			2023							

CONSIGNMENT

Deal #	Trade Date	Delivery Date	Vintage Year	Counterparty	Auction/Bilateral/ ICE/Broker	Purchased Quantity	WCA Unit Cost	Total Cost	Broker	Broker Fee
4			2023							
9			2023							

**Gas Commission Basis Report Cover Letter
FOR THE TWELVE MONTHS ENDED DECEMBER 31, 2023**

		Adjusted Results of Operations	Earnings Sharing
Restated Net Operating Income	a	\$ 189,980,633	\$ -
Restated Rate Base	b	\$ 2,920,839,628	\$ -
Normalized Overall Rate of Return	c=a/b	6.50%	0.00%
Restated Net Operating Income	d=a	\$ 189,980,633	\$ -
Restated Interest Expense	e	\$ 76,818,082	
Restated NOI less Restated Interest Exp	f=d-e	\$ 113,162,550	\$ -
Restated Rate Base	g=b	\$ 2,920,839,628	\$ -
Actual Equity Percent	h	49.29%	
Equity Rate Base	i=g*h	\$ 1,439,681,853	\$ -
Restated Return on Actual Equity	j=f/i	7.86%	0.00%

1.01

**After Earnings
Sharing**

\$ 189,980,633
\$ 2,920,839,628

6.50%

\$ 189,980,633
\$ 76,818,082
\$ 113,162,550

\$ 2,920,839,628
49.29%
\$ 1,439,681,853

7.86%