BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

Dockets UE-240004 & UG-240005
Puget Sound Energy
2024 General Rate Case

AWEC DATA REQUEST NO. 063:

RE: Cost of Service

For each Schedule 87 or 87T customer, please provide a scaled diagram of all 4 inch or larger pipe connected to the customer to a citygate. Please identify the pipe size and material. Please include any lateral pipes that do not directly serve the customer. Please provide each data using customer numbers that are consistent with PSE's response to Nucor Data Request 008.

First Revised Response:

Puget Sound Energy ("PSE") determined it was necessary to revise its Response to AWEC Data Request No. 063 after review of its initial response. The revision was necessary due to some diagrams not including customer numbers consistent with PSE's Response to Nucor Data Request No. 08 and some diagrams not including piping all the way to city gates.

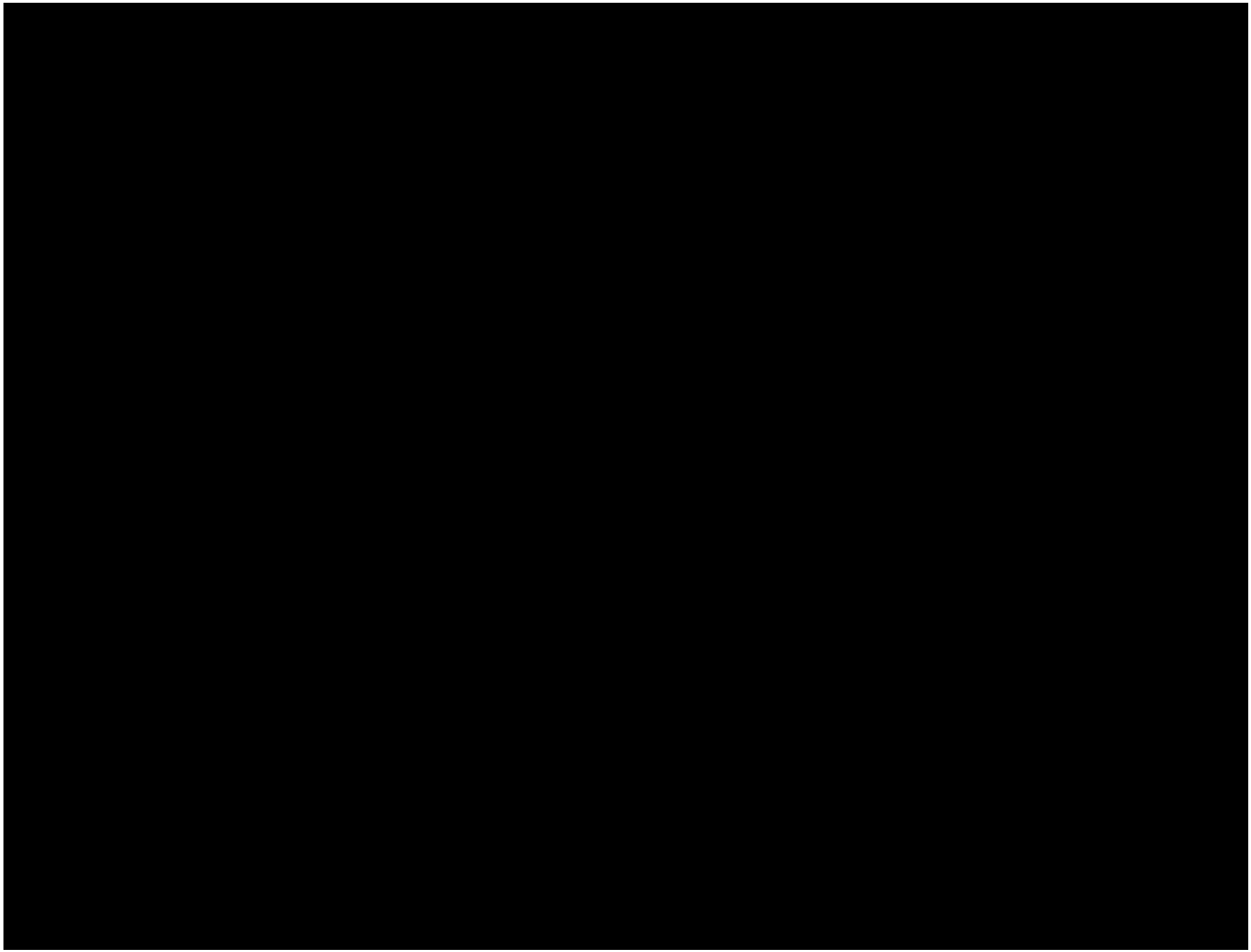
PSE objects to AWEC Data Request No. 063 as overbroad and unduly burdensome as it requests PSE to provide scaled diagrams for all Schedule 87 or 87T customers that include four-inch or larger pipe connected to the customer to a city gate, pipe size, material, and any lateral pipes that do not directly serve the customer. Notwithstanding these objections, and subject thereto, PSE responds as follows:

Please see Attachments A through J for updated scaled diagrams produced from PSE's geospatial information system based on readily available mapping layers that illustrate the piping network in the vicinity of the customer location and nearest gate or town border station and identify pipe that is four inches or larger in diameter and reference customer numbers consistent with PSE's Response to Nucor Data Request No. 008.

Attachment	**Customer Number**
Attachment A	Customer 1
Attachment B	Customer 2
Attachment C	Customer 3

Attachment D	Customer 4
Attachment E	Customer 5
Attachment F	Customer 6
Attachment G	Customer 7
Attachment H	Customer 8
Attachment I	Customer 9
Attachment J	Customer 10, 11, 12, 13, & 14

Shaded information is designated as CONFIDENTIAL per Protective Order in Dockets UE-240004 and UG-240005 as marked in PSE's First Revised Response to AWEC Data Request No. 063 Attachments A – J



Shaded Information is Designated as Confidential per Protective Order in Dockets UE-240004 and UG-240005

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Shaded Information is Designated as Confidential per Protective Order in Dockets UE-240004 and UG-240005

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Shaded Information is Designated as Confidential per Protective Order in Dockets UE-240004 and UG-240005

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BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

Dockets UE-240004 & UG-240005
Puget Sound Energy
2024 General Rate Case

AWEC DATA REQUEST NO. 071:

RE: Cost of Service Study

Please refer to Exhibit JDT-8T at 7:7-13 and 9:21-22. Given PSE's conclusion that direct allocation of mains serving Schedule 87 and 87T is not permissible under WAC Chapter 480-85, why does PSE find direct assignment permissible for Schedule 88T but not Schedules 87 or 87T?

Response:

Puget Sound Energy ("PSE") objects to AWEC Data Request No. 071 as it mischaracterizes the testimony of John D. Taylor. Exhibit JDT-8T at 7:7-13 discusses Washington Administrative Code ("WAC") rules concerning the exclusion of some customer classes from the allocation of smaller diameter mains, but it does not address direct allocation of mains serving Schedule 87 and 87T. Furthermore, Exhibit JDT-8T at 9:21-22 addresses the direct assignment of mains costs to Schedule 87 and Schedule 87T, noting that AWEC witness Kaufman's analysis may initially seem reasonable but requires further review of the system layout and load flow data prior to making a definitive conclusion. It does not conclude that direct allocation of mains to Schedule 87 and 87T is impermissible under WAC Chapter 480-85. Therefore, the question regarding why PSE finds direct assignment permissible for Schedule 88T but not for Schedules 87 or 87T is not aligned with PSE's stated position.

Notwithstanding this objection, and subject thereto, PSE responds as follows:

PSE finds direct assignment permissible for Schedule 88T because this customer is served by dedicated infrastructure. The related costs can be easily identified and directly assigned, which complies with WAC 480-85-060, allowing direct assignment where a customer is served by specific dedicated facilities.

BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

Dockets UE-240004 & UG-240005
Puget Sound Energy
2024 General Rate Case

AWEC DATA REQUEST NO. 072:

RE: Cost of Service Study

Please refer to Exhibit JDT-8T at 10:2-4:

a. Please define "looped pipelines."

b. Please provide a diagram of all looped pipelines that have the ability to serve Schedules 87, 87T, and 88T customers. Please provide such data separately by customer.

c. Please provide the length and pipe diameter of all looped pipelines that have the ability to serve Schedule 87, 87T, and 88T customers.

Does PSE's direct assignment of distribution mains to Schedule 88T include all looped pipelines that may have the ability to serve Schedule 88T customers? If yes, please identify where these pipelines appear in the calculation of the directly assigned mains for Schedule 88T. If no, why not?

Response:

a) Looped pipelines in Local Gas Distribution Utilities refers to a configuration where multiple parallel pipelines are arranged in a manner that allows gas to flow in multiple directions, thus the reference to a loop. This arrangement enhances the reliability and flexibility of the gas distribution network by providing alternative pathways for gas flow. If one section of the pipeline needs maintenance or experiences a failure, the gas can still be delivered through another route within the loop. Looped systems are typically developed over time in response to the needs of multiple customers and their impact on the pipeline system. While desirable, looped pipelines are not always feasible or necessary. However, where looped pipelines exist, they provide a high level of reliability and flexibility, ensuring gas delivery continuity even if one segment of the pipeline requires maintenance or experiences an outage.

b) As described in response to AWEC Data Request 72(a), looped pipelines is a term used to indicate a pipeline system configuration that provides reliability and

flexibility and not as a term for a specific designated length of pipe as it is a system attribute. With that said, Puget Sound Energy (PSE) has not specifically analyzed which looped pipelines have the ability to serve Schedule 87, 87T, and 88T customers. However, the pipeline diagrams included in attachments 2 through 11 provided in response to AWEC Data Request 73 show that the Schedule 87T customers are integrated within PSE's broader distribution system. Please refer to PSE's response to AWEC's DR 71.

c) Objection: PSE objects to AWEC's Data Request 72(c) as overly broad, unduly burdensome and expensive, and not reasonably calculated to lead to discovery of admissible evidence. The request seeks information that would require PSE to perform load flow studies which involve complex calculations and extensive modeling, that would require at minimum, multiple weeks to complete. The complexity of the analysis is due to several factors, including, but not limited to:
   - Customer usage patterns, which can vary significantly depending on the time of day, day of the week, and season;
   - Temperature fluctuations, which can impact the flow of gas through the system;
   - Holiday and non-holiday usage patterns, which can also impact demand;
   - Summer and winter usage patterns, which can vary significantly due to changes in temperature and customer behavior;
   - Adjustments made to ensure the performance of all gate stations, which can impact the flow of gas through the system;
   - Planned outages due to construction and third-party damage, which can also impact the flow of gas through the system;
   - Some Schedule 87 and 87T customers are located far from upstream pipeline gate stations, which means that natural gas is likely to flow through multiple pipes to reach these customers, rather than a single path which adds to the complexity of this request, as the usage on each individual pipe would need to be analyzed.

   Moreover, according to WAC 480-85-060, which governs the allocation of distribution mains, distribution mains are to be directly assigned to a single customer class "where practical."

d) The direct assignment of mains for Schedule 88T is based on specific dedicated facilities. The Four-Mile 16-inch segment, litigated in Docket UG-230393, is an example of this, and the costs associated with this segment are currently recovered through Schedule 141D Distribution Pipeline Provisional Recovery Adjustment.

BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

Dockets UE-240004 & UG-240005
Puget Sound Energy
2024 General Rate Case

AWEC DATA REQUEST NO. 073:
REQUESTED BY:

RE: Cost of Service Study

Please refer to Exhibit JDT-8T at 10:7-12.

a. Please confirm that the referenced customer maps are the maps provided by the Company in response to AWEC Data Request 63, which requests "a scaled diagram of all 4 inch or larger pipe connected to the customer to a citygate."

b. Please explain the difference between a citygate and a gate station or border station.

c. Please provide a customer map for each Schedule 87, 87T, and 88T customer that include a gate station or boarder station.

Please provide the length of pipe, by pipe diameter and material, for the direct path between the customers and gate station or border station in the diagrams provided in response to part d of this request.

Response:

a) Yes, the referenced customer maps provided in response to AWEC Data Request 63 include scaled diagrams showing pipes 4 inches or larger connected to the customer's citygate.

b) Puget Sound Energy (PSE) uses the terms border station and gate station to refer to stations that are connected to the interstate pipeline, NW Pipeline. As explained in Witness Taylor's rebuttal testimony, Exh. JDT-8T at 11:14-18, PSE uses the terms as described below.

Town Border Station – Transfer of custody point from NW Pipeline lateral but different from Gate Station in the sense that metering takes place upstream of this type of station.

Gate Station – Transfer of custody point from NW Pipeline where metering also occurs.

AWEC used the term citygate in its data request No. 063. PSE understood AWEC to be referring to a location where the distribution system connects to an interstate pipeline.

c) For Schedule 87 and 87T customers, please refer to PSE's revised response to AWEC data request No. 063 submitted on September 20, 2024, which includes Town Border Station and Gate Station for each customer map. For the Schedule 88T customer, please refer to PSE's response to AWEC data request No. 062 for the customers' map that includes a gate station.

d) For support of the figures presented in Exhibit JDT-14C please see confidential Attachment A to AWEC Data Request 073 in an excel file titled "240004-05 PSE Resp AWEC DR 073_Attach A (C).xlsx" for the summary of the maps analysis. Each line diagram with the measurements are provided in Attachment 2 through Attachment 11 to AWEC DR 73. As noted in Exhibit JDT-8T a more comprehensive analysis is required to determine the 'material' as requested in this data request.

Puget Sound Energy
2024 General Rate Case
PSE's Response to AWEC Data Request No. 073
Calculation of Distribution Main Replacement Costs serving 87/87T

	Distribution Mains in Feet		
Customer #	4"	6"	8"
1	12,279	-	2,379
2	3,486	-	32,222
4	-	-	55,303
5	-	-	8,644
7	1,495	1,262	514
6	-	-	8,738
8	18,057	-	-
3	-	-	-
9	-	31,185	5,012
10-14	-	20,975	6,096
Total Feet	35,317	53,421	118,907
Cost per Foot	$ 106	$ 178	$ 364
4" - 8" Replacement Cost	$ 3,743,584	$ 9,509,016	$ 43,282,282

Total 4" - 8" Replacement Cost	$ 56,534,881
12" - 20" Replacement Cost	$ 27,441,911
Total Replacement Cost	$ 83,976,792
AWEC Calculated Replacement Cost	$ 43,107,733
Difference	$ 40,869,059

Puget Sound Energy
2024 General Rate Case
PSE's Response to AWEC Data Request No. 073
Calculation of Distribution Main Replacement Costs serving 87/87T

0

Ft per Mile 5280

Customer #	Measurement in Inches 4"	6"	8"	Scale (in. per mile)	Calculated Miles 4"	6"	8"	Calculated Feet of Pipe 4"	6"	8"
1	9		2	3.8	2	-	0	12,279	-	2,379
2	1	-	12	2.0	1	-	6	3,486	-	32,222
4			12	1.2	-	-	10	-	-	55,303
5			2	1.3	-	-	2	-	-	8,644
7	0	0	0	1.1	0	0	0	1,495	1,262	514
6			2	1.1	-	-	2	-	-	8,738
8	6			1.7	3	-	-	18,057	-	-
3				0.6	-	-	-	-	-	-
9		5	1	1	-	6	1	-	31,185	5,012
10-14		3	1	1	-	4	1	-	20,975	6,096
10-14				1	-	-	-	-	-	-
Total	16	8	32					35,317	53,421	118,907
							Cost	$ 3,743,584	$ 9,509,016	$ 43,282,282
							Total Costs for 12 - 20"			$ 27,441,911
									Total Cost	$ 83,976,792

Size	Replacement Cost per Foot
4	$ 106
6	$ 178
8	$ 364
12	$ 558
16	$ 742
20	$ 614

BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

Dockets UE-240004 & UG-240005
Puget Sound Energy
2024 General Rate Case

AWEC DATA REQUEST NO. 075:
REQUESTED BY:

RE: Cost of Service Study

Please refer to Exhibit JDT-8T at 12:3-23.

a. Please confirm that a portion of the pipe directly assigned to Schedules 87 and 87T in Exhibit JDT-14 also serve other schedules. If not confirmed, why not?

b. Please provide the analysis described in this referenced testimony and in Exhibit JDT-14 for Schedule 88T customers.

c. If PSE declines to provide such analysis, please explain why PSE has not performed such analysis for Schedule 88T.

Response:

Puget Sound Energy ("PSE") objects to AWEC Data Request No. 075 to the extent it requests information that is publicly available or obtainable from some other source that is more convenient, less burdensome, or less expensive. Notwithstanding these objections, PSE responds as follows:

a. Yes. The values associated with mains in Exhibit JDT-14 include mains that also serve customers on other rate schedules.

b. Puget Sound Energy (PSE) objects to this request as it is not reasonably calculated to lead to the discovery of admissible information since the referenced testimony does not refer to Schedule 88T. Subject to and without waiving its objection, PSE responds as follows: For Schedule 88T, the direct assignment of infrastructure is based on specific dedicated facilities, as described in Exhibit JDT-8T at pages 14 and 15. In addition, the Four-Mile 16-inch segment, currently recovered under Schedule 141D Distribution Pipeline Provisional Recovery Adjustment, was litigated in Docket UG-230393, and a similar analysis for Schedule 88T was not required.

c. As noted in part b, the costs assigned to Schedule 88T were analyzed differently due to its unique service arrangement that relies on dedicated infrastructure.

BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

Dockets UE-240004 & UG-240005
Puget Sound Energy
2024 General Rate Case

AWEC DATA REQUEST NO. 076

"CONFIDENTIAL" Table of Contents

	"CONFIDENTIAL" Material
Data Request No. 076	Shaded information is designated as CONFIDENTIAL per Protective Order in Dockets UE-240004 and UG-240005 as marked in Puget Sound Energy's Response to AWEC Data Request No. 076 Attachments A-I

BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

Dockets UE-240004 & UG-240005
Puget Sound Energy
2024 General Rate Case

AWEC DATA REQUEST NO. 076:

RE: Cost of Service Study

Please refer to the revised responses to AWEC Data Request 63.

a. In these diagrams, does large diameter pipe overlay or obscure smaller diameter pipe?

b. If the response to part a is yes, please provide these diagrams with 12-inch and larger pipe excluded from the diagram.

c. Please provide a pressure map for each area in the referenced diagrams using under-design day peak loads. Please use assumptions and models from PSE's 2023 Gas IRP, or more recent assumptions and models if available.

d. Please identify the path that PSE used in these figures when calculating lengths for Exh. JDT-14.

Response:

a. Yes, larger diameter pipeline overlay or obscure smaller diameter pipeline.

b. See Attachments A through I to Puget Sound Energy's ("PSE") Response to AWEC Data Request No. 076 that removes 12-inch and greater diameter pipeline from the overlay. However, you still can have larger diameter pipeline overlay or obscure smaller diameter pipeline, such as 6-inch or 8-inch obscuring 4-inch. Please note that the customer 1 diagram isn't included since the diagram for this customer provided in PSE's Revised Response to AWEC Data Request No. 063 didn't include any pipe larger than 8-inch.

c. Please see PSE's Response to AWEC Data Request No. 072 part c regarding the complexity of providing a pressure map for each area under design day peak loads and what is required.

d. Please see PSE's Response to AWEC Data Request No. 073 part d.

Shaded information is designated as CONFIDENTIAL per Protective Order in Dockets UE-240004 and UG-240005 as marked in PSE's Response to AWEC Data Request No. 076 Attachments A – I.

ATTACHMENTS A-I to PSE's Response to AWEC Data Request No. 076

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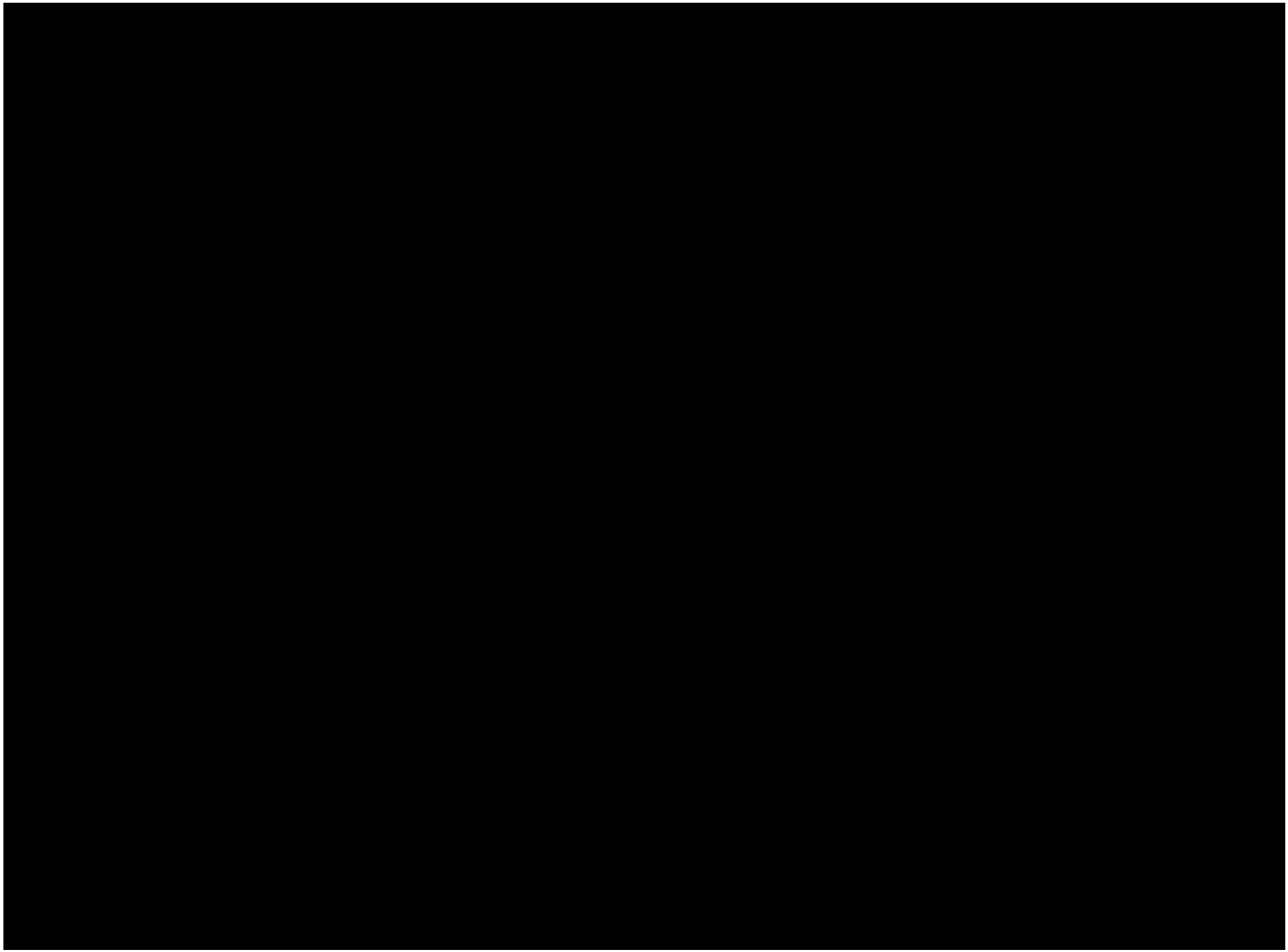

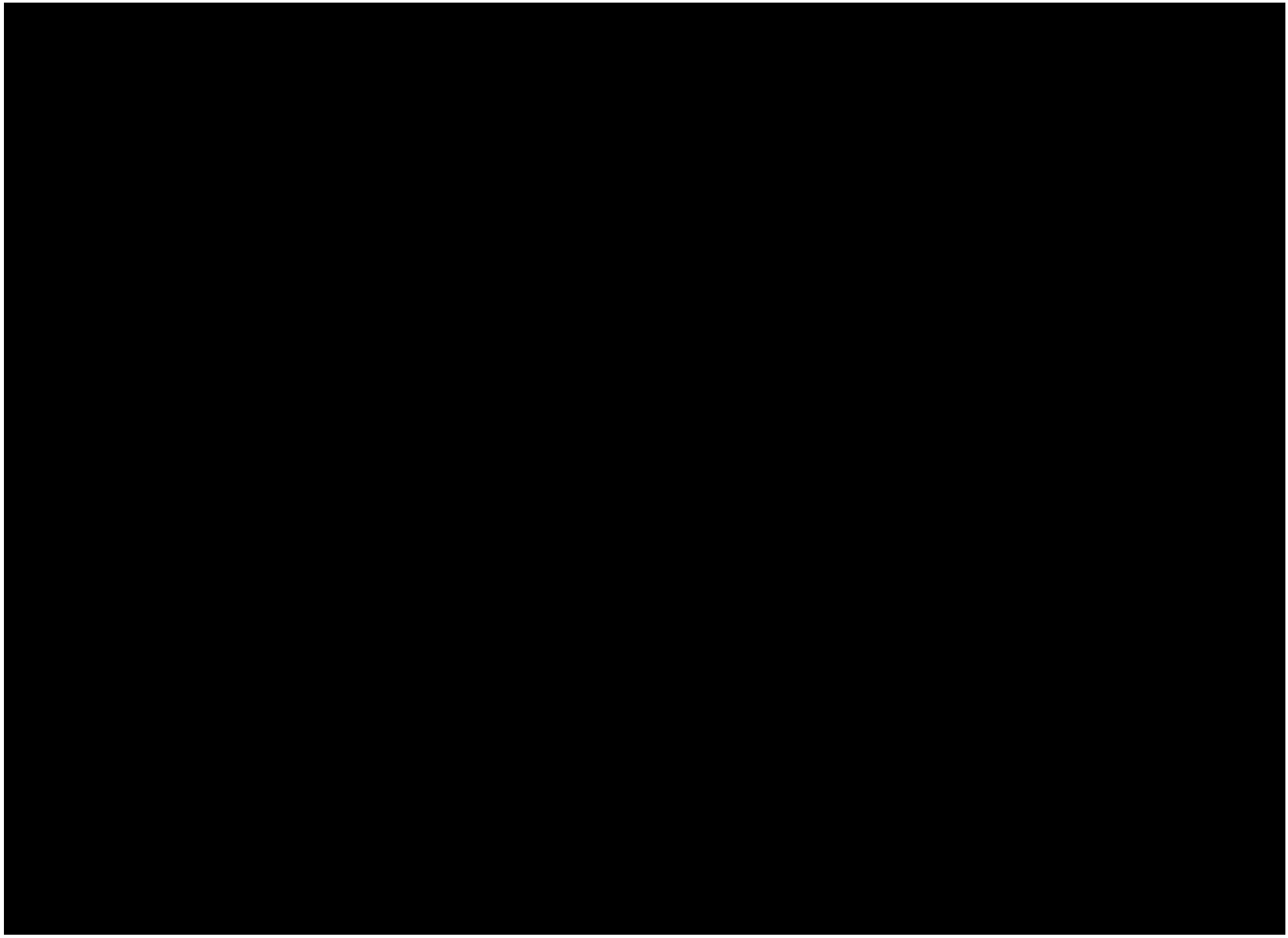

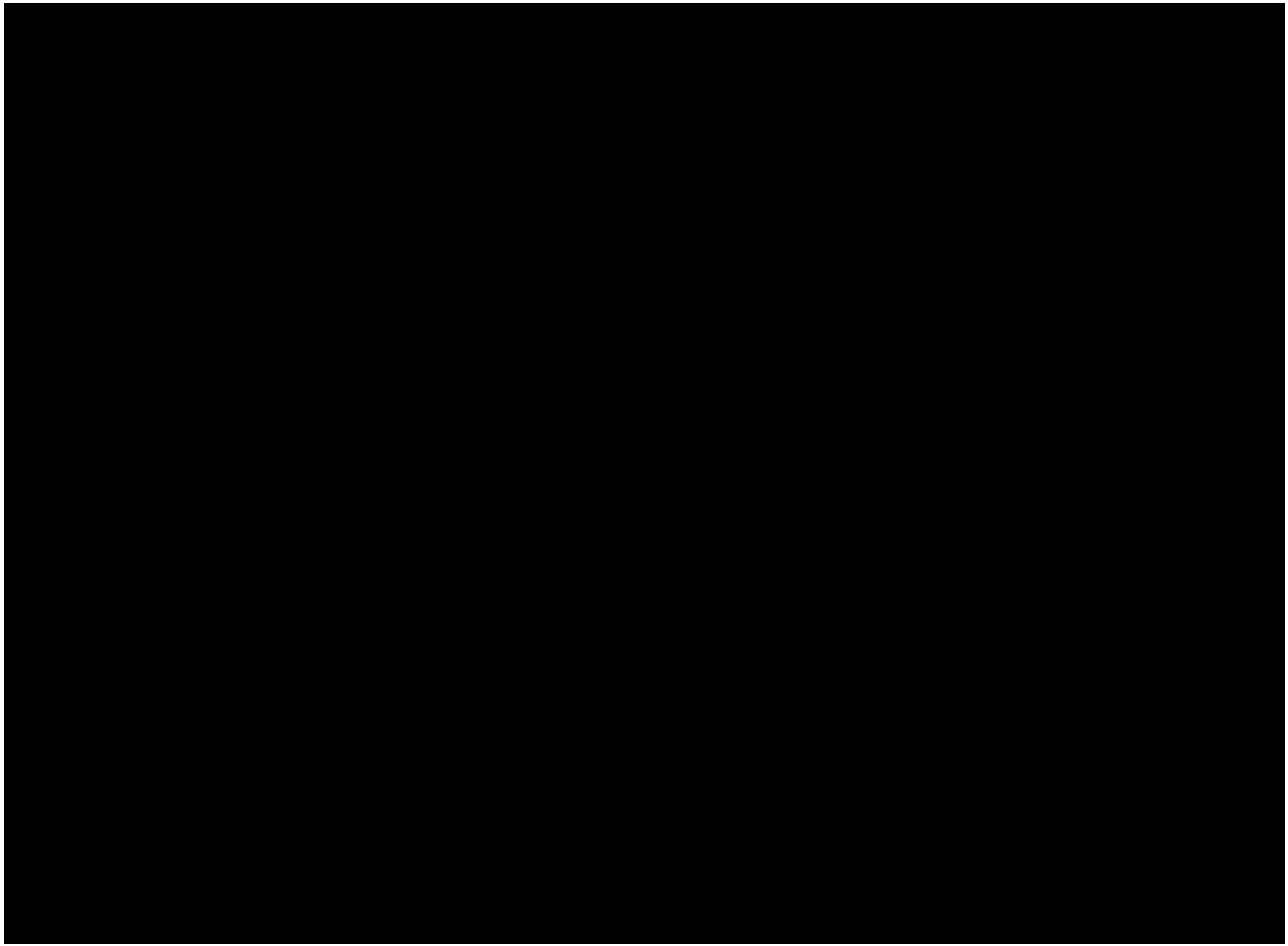

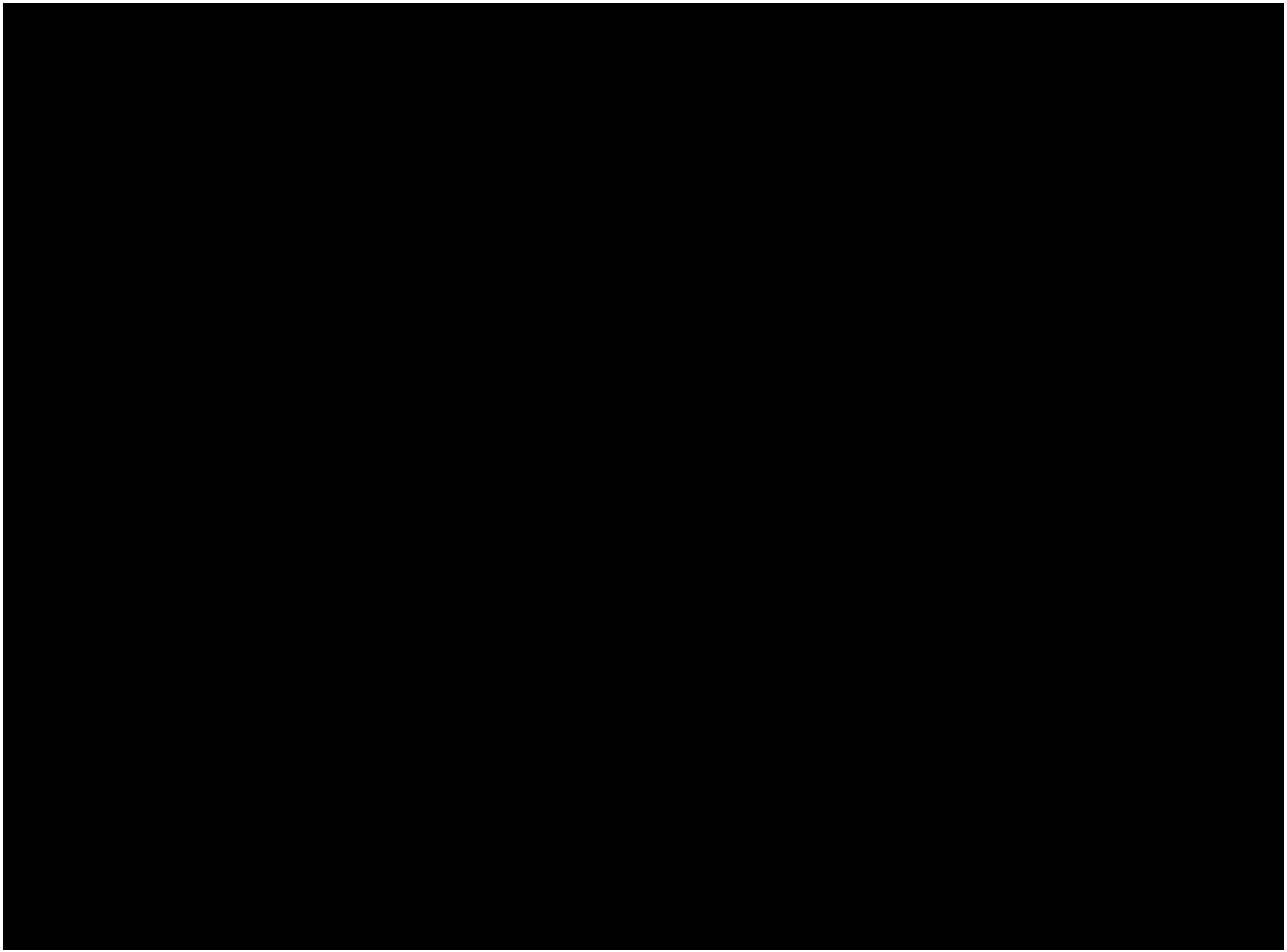

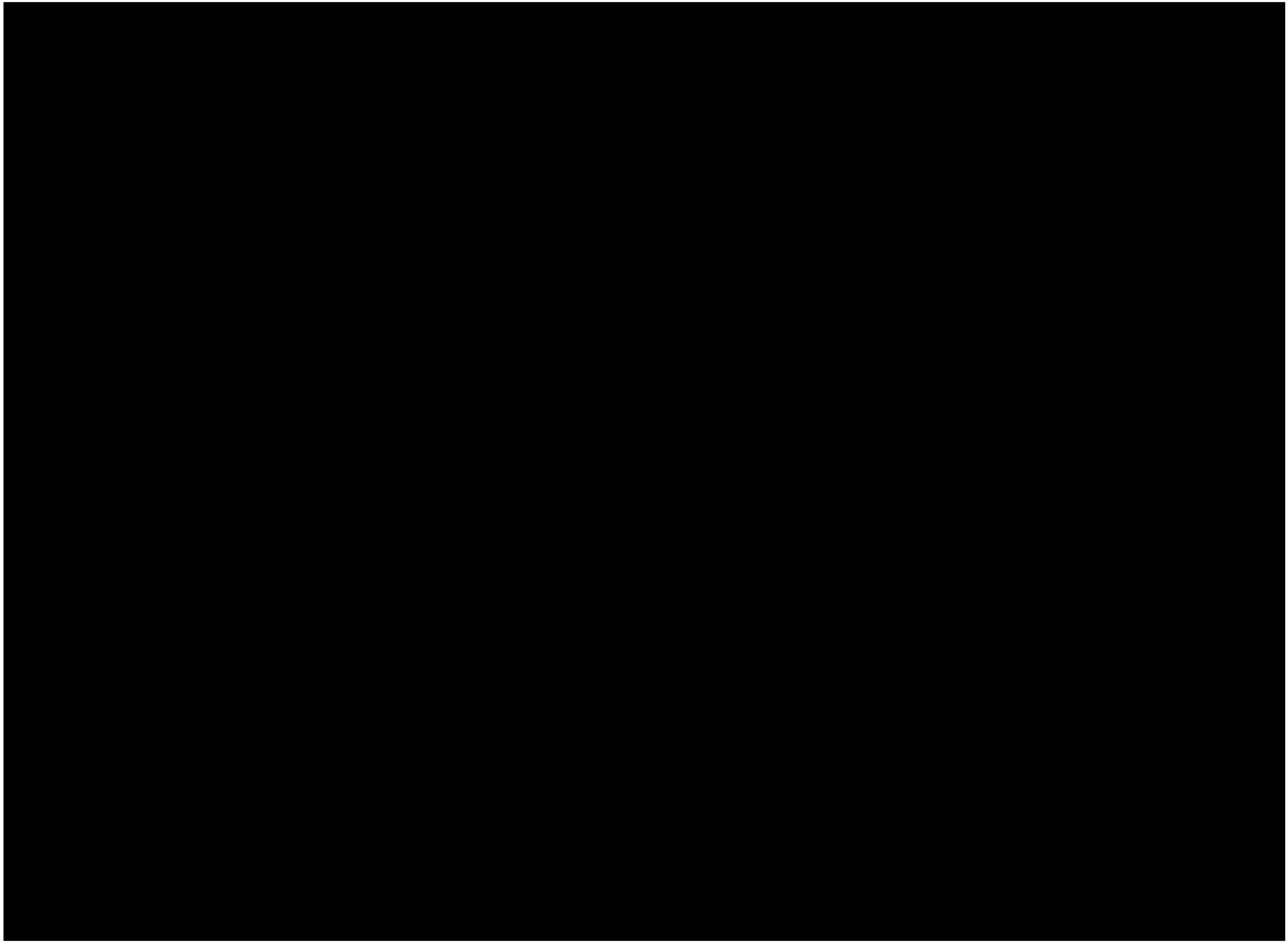

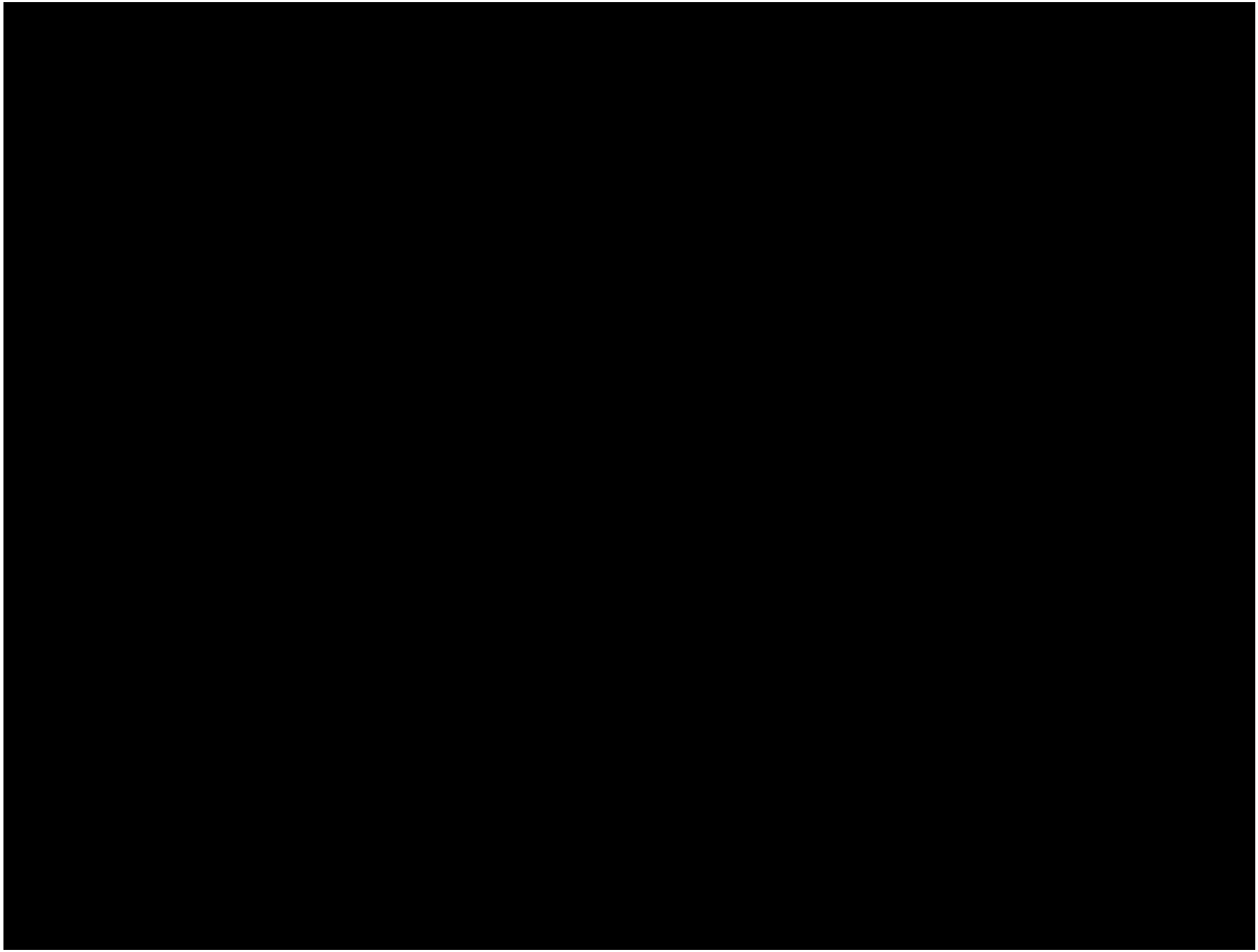

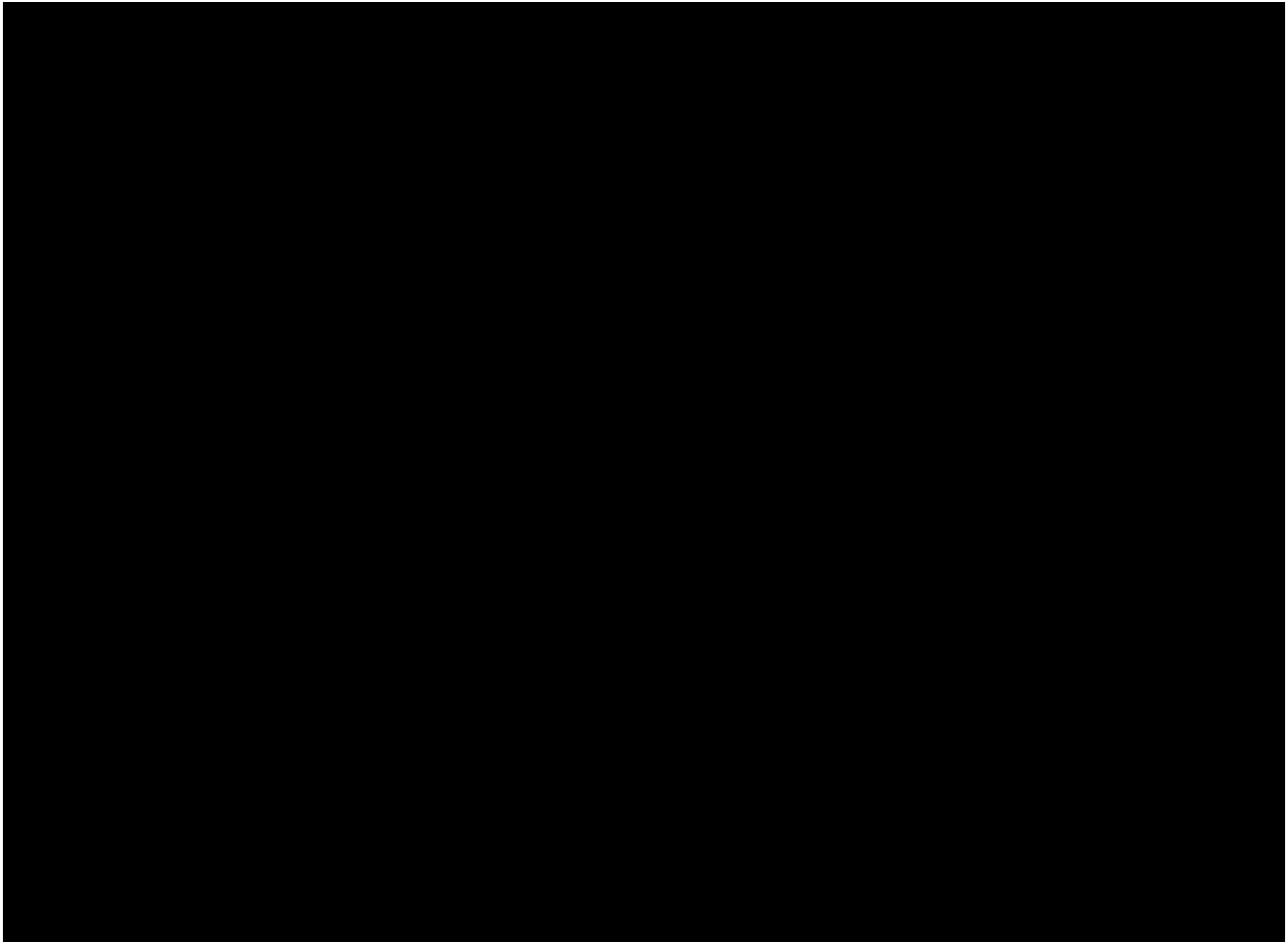

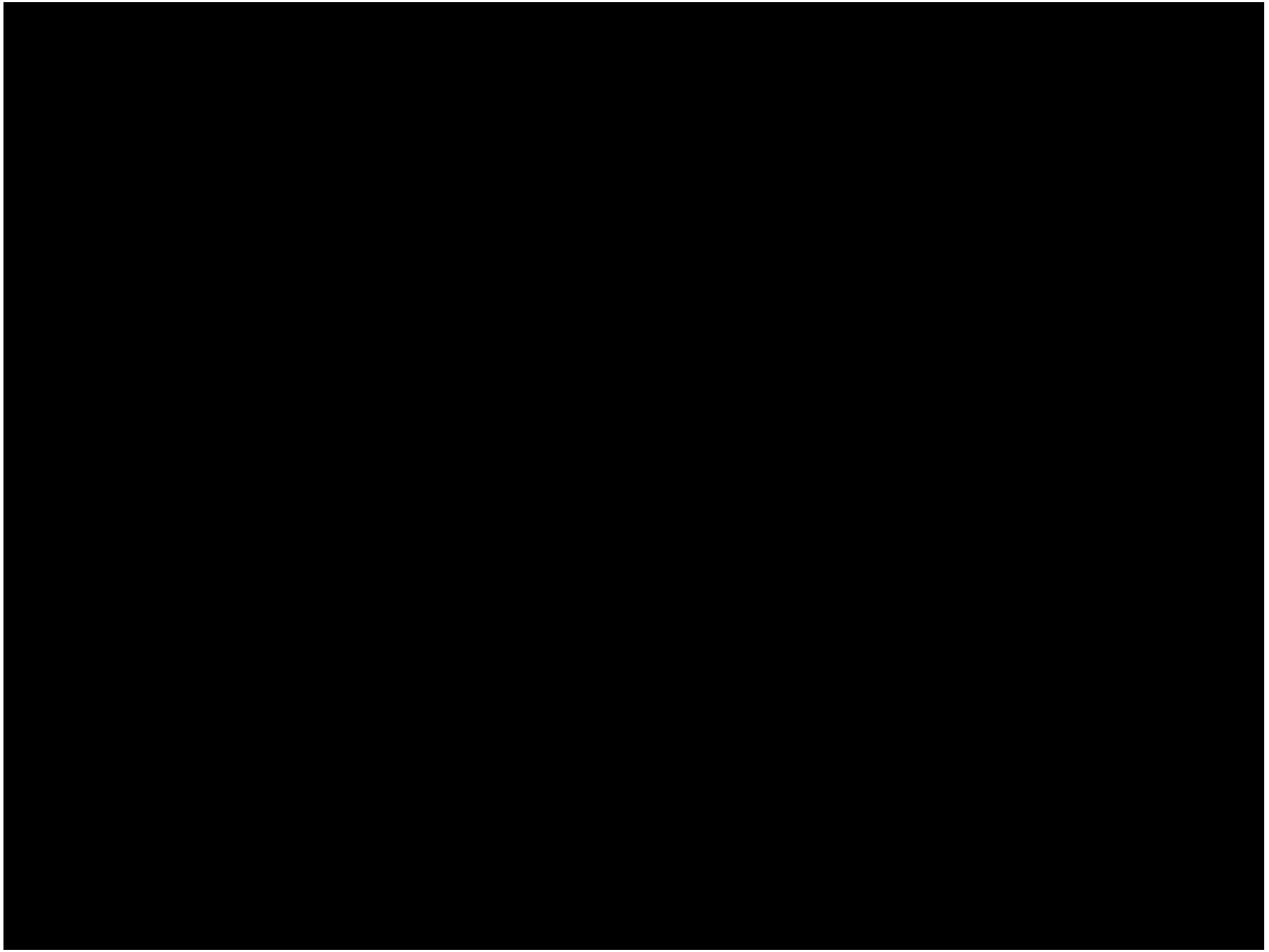

BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

Dockets UE-240004 & UG-240005
Puget Sound Energy
2024 General Rate Case

AWEC DATA REQUEST NO. 078:

RE: Cost of Service Study

Please refer to 240004-05 PSE Resp AWEC DR 063_Attach B_Rev_01 (C).pdf, 240004-05 PSE Resp AWEC DR 063_Attach D_Rev_01 (C).pdf, and Exhibit JDT-14:

a. Does PSE's estimate of Customer 2 and 4 in Exhibit JDT-14 include pipe that serves both Customers?

b. If yes, for the shared pipe, does PSE count each foot of pipe twice in Exhibit JDT-14, or does PSE allocate the pipe between each customer?

Response:
Puget Sound Energy ("PSE") objects to AWEC Data Request No. 078 to the extent it requests information that is publicly available or obtainable from some other source that is more convenient, less burdensome, or less expensive. Notwithstanding these objections, and subject thereto, PSE responds as follows:

a. Please see PSE's Response to AWEC Data Request No. 073 part d.

b. Please see PSE's Response to AWEC Data Request No. 073 part d.

BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

Dockets UE-240004 & UG-240005
Puget Sound Energy
2024 General Rate Case

AWEC DATA REQUEST NO. 080:

RE: Cost of Service Study

Please refer to 240004-05 PSE Resp AWEC DR 062_Attach A (C).pdf:

a. Is the 8-inch pipe connecting the Golden Givens Limiting Station and the PLNG plant included in the direct assignment of mains to PLNG? If no, why not? If yes, please indicate where this pipe is included in PSE's workpapers.

b. Is the 16-inch pipe connecting the southern terminus of Upgrade 1 to the North Tacoma Gate Station included in the direct assignment of mains to PLNG? If no, why not? If yes, please indicate where this pipe is included in PSE's workpapers.

c. Is the 20-inch pipe connecting the southern terminus of Upgrade 1 to the North Tacoma Gate Station included in the direct assignment of mains to PLNG? If no, why not? If yes, please indicate where this pipe is included in PSE's workpapers.

d. Is the 8-inch pipe connecting the Upgrade 1 to the 12-inch pipe located in the north east quadrant of the diagram included in the direct assignment of mains to PLNG? If no, why not? If yes, please indicate where this pipe is included in PSE's workpapers.

e. Is the 12-inch pipe in the northeast quadrant of the diagram included in the direct assignment of mains to PLNG? If no, why not? If yes, please indicate where this pipe is included in PSE's workpapers.

f. Please refer to Exhibit JDT-8T at 11:6-13. Please confirm that the Golden Givens Limit Station does not connect to NW Pipeline. If confirmed, please provide a diagram of the pipe connecting the Golden Givens Limit Station to the NW Pipeline in a similar format as 240004-05 PSE Resp AWEC DR 062_Attach A (C).pdf.

g. If part f above is confirmed, is the cost of the pipe connecting the Golden Givens Limit Station to the NW Pipeline included in the direct assignment of mains to PLNG? If no, why not? If yes, please indicate where this pipe is included in PSE's workpapers.

h. Please provide the replacement cost for the pipe identified in parts a through g above.

Response:

PSE objects to AWEC data request No. 080 to the extent it refers to direct assignment to "PLNG" and the "PLNG Facility." Subject to and without waiving its objection, PSE responds as follows: As appropriate, PSE has used the correct terminology in the responses below.

a. No, the 8-inch pipe connecting the Golden Givens Limiting Station and the Tacoma LNG plant is not included in the direct assignment of mains to Schedule 88T. This is because the direct assignment of mains to Schedule 88T and the Special Contract class is based on the use of mains during peak demand periods. Since Schedule 88T does not have peak demand requirements, and is a fully interruptible schedule, plus during peak events it would supply gas from the Tacoma LNG facility, unlike other customers who would be pulling gas from the system; thus, no portion of the pipe's peak capacity is allocated to Schedule 88T.

b. Similarly to the response above in part a, the 16-inch pipe connecting the southern terminus of Upgrade 1 to the North Tacoma Gate Station is not assigned to Schedule 88T, as this pipe is part of the broader distribution system that serves multiple customers.

c. The 20-inch pipe from the southern terminus of Upgrade 1 to the North Tacoma Gate Station is not directly assigned to Schedule 88T for the same reason as in parts a and b—Schedule 88T's lack of peak demand requirements excludes it from these allocations.

d. No, the 8-inch pipe in the northeast quadrant is not directly assigned to Schedule 88T for the same reasons outlined above.

e. No, the 12-inch pipe in the northeast quadrant is not directly assigned to Schedule 88T for the same reasons outlined above.

f. The Golden Givens Limit Station does not directly connect to NW Pipeline. Please see Figure 1 on page 6 of the Direct Testimony of PSE's witness Duane A. Henderson, Exhibit DAH-1T in PSE's 2019 general rate case in Dockets UE-190259 and UG-190530 for a detailed distribution system diagram near the Golden Givens Limit Station which includes the pipe connecting it to NW Pipeline.

g. No, the pipe connecting the Golden Givens Limit Station to the NW Pipeline is not directly assigned to Schedule 88T for the same reasons outlined above.

h. See Attachment A for the replacement cost of the pipe identified in parts a through g above.

ATTACHMENT A to PSE's Response to AWEC Data Request No. 080

Id	Date Installed	Status	Nominal Diameter	Material	Pressure	Internal Coating	Install Method	Pse Job Num	STLength()	Shape_Length	SingleFeed	Unit Cost	2023 Cost
237069664	1956-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	56-124		5286.740413		$ 741.66	$ 3,920,972
237087951	1956-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	56124		5155.958184		$ 741.66	$ 3,823,975
179256425	2008-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	109031025	2658.88068	2658.88068		$ 741.66	$ 1,971,989
237090249	1956-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	56-124		2359.433557		$ 741.66	$ 1,749,901
179260146	2008-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	109031025	1515.374831	1515.374826		$ 741.66	$ 1,123,895
179260889	2000-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	109003743	1501.921871	1501.921852		$ 741.66	$ 1,113,918
179257594	2008-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	109031025	1344.067012	1344.066999		$ 741.66	$ 996,843
179259429	2008-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	109031025	1284.745043	1284.745077		$ 741.66	$ 952,846
237466923	1957-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	56-124		1259.164209		$ 741.66	$ 933,874
179278388	2008-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	109031025	1257.420497	1257.420517		$ 741.66	$ 932,580
179263015	2008-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	109031025	1243.920294	1243.920262		$ 741.66	$ 922,568
237080889	1956-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	56-124		1081.233531		$ 741.66	$ 801,909
179266420	2008-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	109031025	1051.057047	1051.057064		$ 741.66	$ 779,529
179263746	2008-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	109031025	952.9936386	952.9936577		$ 741.66	$ 706,799
179284108	2008-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	109031025	949.4928958	949.4929313		$ 741.66	$ 704,202
179267620	2008-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	109031025	906.9484809	906.9484769		$ 741.66	$ 672,649
179262956	2008-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	109031025	866.1746627	866.1746371		$ 741.66	$ 642,408
179281498	2008-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	109031025	830.3252833	830.325249		$ 741.66	$ 615,820
237468450	1957-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	56-124		819.9063973		$ 741.66	$ 608,093
179280536	2008-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	109031025	764.5090883	764.5090836		$ 741.66	$ 567,007
179284028	2008-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	109031025	721.0490471	721.0489924		$ 741.66	$ 534,774
179277483	2008-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	109031025	700.6877987	700.6877569		$ 741.66	$ 519,673
179258832	2008-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	109031025	681.8887628	681.8887719		$ 741.66	$ 505,731
179263286	2008-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	109031025	673.5447589	673.5447387		$ 741.66	$ 499,542
237081631	1956-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	56-124		673.2279772		$ 741.66	$ 499,307
237453969	1956-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	56-124		630.9273086		$ 741.66	$ 467,934
237459846	1962-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	MC62256		623.4296686		$ 741.66	$ 462,374
179273020	2008-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	109031025	621.9422661	621.9422734		$ 741.66	$ 461,271
237461756	1930-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	305369		580.0280508		$ 741.66	$ 430,184
179265143	2008-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	109031025	553.6140773	553.6140937		$ 741.66	$ 410,594
179266213	2008-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	109031025	508.285606	508.285643		$ 741.66	$ 376,976
237083144	1956-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	56-124		484.1852409		$ 741.66	$ 359,102
179267131	2008-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	109031025	445.2809424	445.2809634		$ 741.66	$ 330,248
179267056	2008-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	109031025	430.1536562	430.1536835		$ 741.66	$ 319,028
179282654	2008-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	109031025	429.2372499	429.2372344		$ 741.66	$ 318,349
179280002	2008-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	109031025	428.9148083	428.914821		$ 741.66	$ 318,110
179259159	2008-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	109031025	410.5587683	410.5587495		$ 741.66	$ 304,496
179256549	2008-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	109031025	390.4612654	390.4612507		$ 741.66	$ 289,590
179269630	2000-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	109003743	384.4983097	384.4983466		$ 741.66	$ 285,168
179284299	2008-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	109031025	373.7077211	373.7077702		$ 741.66	$ 277,165
179272798	2008-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	109031025	320.5757392	320.5757065		$ 741.66	$ 237,759
179271982	2008-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	109031025	288.767497	288.7674999		$ 741.66	$ 214,168
179284406	2008-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	109031025	240.6756145	240.6756008		$ 741.66	$ 178,500
179259585	2008-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	109031025	229.6386189	229.6386347		$ 741.66	$ 170,314
179276199	2008-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	109031025	217.676682	217.676702		$ 741.66	$ 161,442
237453218	2011-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	109054961		202.6588669		$ 741.66	$ 150,304
237447288	1962-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	MC62256		193.1363279		$ 741.66	$ 143,242
179271665	2008-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	109031025	189.5862634	189.5863154		$ 741.66	$ 140,609
179260938	2008-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	109031025	180.5956681	180.5956533		$ 741.66	$ 133,941
237450602	2011-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	109054961		174.2561476		$ 741.66	$ 129,239
237091188	1956-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	56-124		165.4483229		$ 741.66	$ 122,707
179272322	2008-01-01 12:00:00	Existing	16	STWI	HP	Bare	Insert	109031025	147.3923864	147.3923872		$ 741.66	$ 109,315
179261154	2008-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	109031025	140.5938999	140.5938788		$ 741.66	$ 104,273
237074383	1956-01-01 12:00:00	Existing	16	STW	HP	Bare	Insert	56-124		138.5977421		$ 741.66	$ 102,793
237090173	1956-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	56-124		132.2066931		$ 741.66	$ 98,053
179259453	2008-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	109031025	122.4998413	122.4998064		$ 741.66	$ 90,853
179279057	2008-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	109031025	103.540131	103.5401445		$ 741.66	$ 76,792
179282540	2000-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	109003743	95.03924452	95.03926265		$ 741.66	$ 70,487
107663396	2008-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	109031025	94.98382003	94.98379917		$ 741.66	$ 70,446
237448577	1957-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	56-124		88.13897713		$ 741.66	$ 65,369
179273035	2000-01-01 12:00:00	Existing	16	STWI	HP	Bare	Insert	109003743	83.2950742	83.29505131		$ 741.66	$ 61,777
179262963	2008-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	109031025	82.51423785	82.51428077		$ 741.66	$ 61,198
179256033	2008-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	109031025	79.41315414	79.41318669		$ 741.66	$ 58,898
237090127	1956-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	56-124		77.22537417		$ 741.66	$ 57,275
179273392	2008-01-01 12:00:00	Existing	16	STWI	HP	Bare	Insert	109031025	71.42144377	71.42141946		$ 741.66	$ 52,971
179269692	2008-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	109031025	70.27489562	70.27494527		$ 741.66	$ 52,120
237447092	2004-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	109018363		58.77314437		$ 741.66	$ 43,590
179274459	2008-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	109031025	57.71631637	57.7163636		$ 741.66	$ 42,806
107663398	2008-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	109031025	52.49604218	52.496039		$ 741.66	$ 38,934
179258851	2008-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	109031025	52.41163737	52.41163778		$ 741.66	$ 38,872
179263404	2008-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	109031025	49.56794228	49.56790326		$ 741.66	$ 36,763
179257656	2008-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	109031025	48.75095939	48.750947		$ 741.66	$ 36,157
237076560	1956-01-01 12:00:00	Existing	16	STWI	HP	Bare	Insert	56-124		44.43090792		$ 741.66	$ 32,953
179276159	2008-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	109031025	42.57531644	42.57533757		$ 741.66	$ 31,576
179269355	2008-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	109031025	41.29480484	41.29478978		$ 741.66	$ 30,627
179269025	2008-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	109031025	39.99210339	39.99215413		$ 741.66	$ 29,661
179260009	2008-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	109031025	39.75888546	39.75884354		$ 741.66	$ 29,488
179265978	2008-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	109031025	36.84707393	36.8470737		$ 741.66	$ 27,328
237438905	1962-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	MC62256		36.37325167		$ 741.66	$ 26,977
179260710	2008-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	109031025	35.26982636	35.26985192		$ 741.66	$ 26,158
179265079	2008-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	109031025	34.96736308	34.96737638		$ 741.66	$ 25,934
179283685	2008-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	109031025	33.10844722	33.10846469		$ 741.66	$ 24,555
179274752	2008-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	109031025	32.85987473	32.85991642		$ 741.66	$ 24,371
179261000	2008-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	109031025	29.96686139	29.96686764		$ 741.66	$ 22,225
179258884	2008-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	109031025	27.26462792	27.26461547		$ 741.66	$ 20,221
179276535	2008-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	109031025	22.72018714	22.72017042		$ 741.66	$ 16,851
179267628	2008-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	109031025	20.92050966	20.92047137		$ 741.66	$ 15,516
179257637	2008-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	109031025	18.99764723	18.99765412		$ 741.66	$ 14,090
237082027	1956-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	56-124		18.48635579		$ 741.66	$ 13,711
237450427	1962-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	MC62256		18.13142808		$ 741.66	$ 13,447
237448904	2011-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	109054961		17.46459209		$ 741.66	$ 12,953
237447804	1930-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	305369		17.28003608		$ 741.66	$ 12,816
179261948	2008-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	109031025	17.14915515	17.14917005		$ 741.66	$ 12,719
179269022	2008-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	109031025	15.77801648	15.77797016		$ 741.66	$ 11,702
237465802	2011-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	109054961		14.38530035		$ 741.66	$ 10,669
179259927	2008-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	109031025	12.20887961	12.2088436		$ 741.66	$ 9,055
179266073	2008-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	109031025	12.12824497	12.1282017		$ 741.66	$ 8,995
237442281	2004-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	109018363		11.64033903		$ 741.66	$ 8,633
237466743	1930-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	305369		11.55830646		$ 741.66	$ 8,572
237446788	1930-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	305369		11.54925503		$ 741.66	$ 8,566
237081074	1956-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	56-124		10.81699058		$ 741.66	$ 8,023
179274540	2008-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	109031025	10.43694642	10.43697969		$ 741.66	$ 7,741
237468822	2004-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	109018363		9.441999791		$ 741.66	$ 7,003

237471030	2004-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	109018363		9.361794899	$ 741.66	$ 6,943
237444168	2004-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	109018363		8.4885039	$ 741.66	$ 6,296
237470129	1962-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	MC62256		8.137056757	$ 741.66	$ 6,035
237438367	1930-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	305369		7.070855622	$ 741.66	$ 5,244
237441311	2011-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	109054961		4.342750875	$ 741.66	$ 3,221
237456449	1930-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	305369		4.252481705	$ 741.66	$ 3,154
237453901	2011-01-01 12:00:00	Existing	16	STW	HP	Bare	Direct Bury	109054961		3.54373137	$ 741.66	$ 2,628
237471492	1995-01-01 12:00:00	Existing	12	STW	HP	Bare	Direct Bury	9505659	5,083	5,083	$ 558.21	$ 2,837,311
237074379	1995-01-01 12:00:00	Existing	12	STW	HP	Bare	Direct Bury	9505659	1,645	1,645	$ 558.21	$ 918,146
237465121	1995-01-01 12:00:00	Existing	12	STW	HP	Bare	Direct Bury	9505659	1,026	1,026	$ 558.21	$ 572,583
237080171	1995-01-01 12:00:00	Existing	12	STW	HP	Bare	Direct Bury	9505659	925	925	$ 558.21	$ 516,514
237449181	1995-01-01 12:00:00	Existing	12	STW	HP	Bare	Direct Bury	9505639	223	223	$ 558.21	$ 124,440
237458403	1995-01-01 12:00:00	Existing	12	STW	HP	Bare	Direct Bury	9505659	215	215	$ 558.21	$ 119,898
179276462	2008-01-01 12:00:00	Existing	12	STW	HP	Bare	Direct Bury	109031025	194	194	$ 558.21	$ 108,453
108382934	2008-01-01 12:00:00	Existing	12	STW	HP	Bare	Direct Bury	109038855	150	150	$ 558.21	$ 83,714
179276982	2008-01-01 12:00:00	Existing	12	STW	HP	Bare	Direct Bury	109038855	145	145	$ 558.21	$ 81,095
179262279	2008-01-01 12:00:00	Existing	12	STW	HP	Bare	Direct Bury	109038855	135	135	$ 558.21	$ 75,463
237085590	1995-01-01 12:00:00	Existing	12	STWI	HP	Bare	Insert	9505659	107	107	$ 558.21	$ 59,587
107960556	2017-05-15 12:00:00	Existing	12	STW	HP	Bare	Direct Bury	109087547	65	65	$ 558.21	$ 36,029
179256294	1995-01-01 12:00:00	Existing	12	STW	HP	Bare	Direct Bury	9505659	58	58	$ 558.21	$ 32,116
109623623	2020-09-21 12:00:00	Existing	12	STW	HP	Bare	Unknown	109087543	48	48	$ 558.21	$ 26,953
179262226	2008-01-01 12:00:00	Existing	12	STW	HP	Bare	Direct Bury	109031025	46	46	$ 558.21	$ 25,849
108382933	2017-07-17 12:00:00	Existing	12	STW	HP	Bare	Direct Bury	109087546	43	43	$ 558.21	$ 24,003
107960554	2017-05-15 12:00:00	Existing	12	STW	HP	Bare	Direct Bury	109087547	41	41	$ 558.21	$ 22,761
179259720	2008-01-01 12:00:00	Existing	12	STW	HP	Bare	Direct Bury	109031025	29	29	$ 558.21	$ 16,246
179271915		Existing	12	STW	HP	Bare	Direct Bury		28	28	$ 558.21	$ 15,786
179261536	2008-01-01 12:00:00	Existing	12	STW	HP	Bare	Direct Bury	109031025	23	23	$ 558.21	$ 12,924
109759825	2020-09-21 12:00:00	Existing	12	STW	HP	Bare	Unknown	109087543	19	19	$ 558.21	$ 10,871
108382941	2017-07-17 12:00:00	Existing	12	STW	HP	Bare	Direct Bury	109087546	18	18	$ 558.21	$ 10,049
179272689		Existing	12	STW	HP	Bare	Direct Bury		17	17	$ 558.21	$ 9,757
179264173	2008-01-01 12:00:00	Existing	12	STW	HP	Bare	Direct Bury	109038855	14	14	$ 558.21	$ 7,826
109786816	2008-01-01 12:00:00	Existing	12	STW	HP	Bare	Direct Bury	109031025	13	13	$ 558.21	$ 7,156
9387119	2008-01-01 12:00:00	Existing	12	STW	HP	Bare	Direct Bury	109031025	12	12	$ 558.21	$ 6,743
179281830	2008-01-01 12:00:00	Existing	12	STW	HP	Bare	Direct Bury	109038855	11	11	$ 558.21	$ 6,332
179256796	2008-01-01 12:00:00	Existing	12	STW	HP	Bare	Direct Bury	109031025	11	11	$ 558.21	$ 5,943
108382937	2017-07-17 12:00:00	Existing	12	STW	HP	Bare	Direct Bury	109087546	10	10	$ 558.21	$ 5,582
109786817	2008-01-01 12:00:00	Existing	12	STW	HP	Bare	Direct Bury	109031025	9	9	$ 558.21	$ 5,148
179274693	2008-01-01 12:00:00	Existing	12	STW	HP	Bare	Direct Bury	109038855	8	8	$ 558.21	$ 4,264
179271868	2008-01-01 12:00:00	Existing	12	STW	HP	Bare	Direct Bury	109031025	8	8	$ 558.21	$ 4,260
179265552	2008-01-01 12:00:00	Existing	12	STW	HP	Bare	Direct Bury	109031025	7	7	$ 558.21	$ 3,720
107960552	2017-05-15 12:00:00	Existing	12	STW	HP	Bare	Direct Bury	109087547	6	6	$ 558.21	$ 3,564
179259848	2008-01-01 12:00:00	Existing	12	STW	HP	Bare	Direct Bury	109031025	6	6	$ 558.21	$ 3,249
179273939	2008-01-01 12:00:00	Existing	12	STW	HP	Bare	Direct Bury	109031025	5	5	$ 558.21	$ 2,880
179266426		Existing	12	STW	HP	Bare	Direct Bury		5	5	$ 558.21	$ 2,826
179275131		Existing	12	STW	HP	Bare	Direct Bury		5	5	$ 558.21	$ 2,692
179267653		Existing	12	STW	HP	Bare	Direct Bury		5	5	$ 558.21	$ 2,644
179259518	2008-01-01 12:00:00	Existing	12	STW	HP	Bare	Direct Bury	109038855	4	4	$ 558.21	$ 2,365
179282812	2008-01-01 12:00:00	Existing	12	STW	HP	Bare	Direct Bury	109031025	4	4	$ 558.21	$ 2,055
108221473	2008-01-01 12:00:00	Existing	12	STW	HP	Bare	Direct Bury	109031025	3	3	$ 558.21	$ 1,942
109759824	2020-09-21 12:00:00	Existing	12	STW	HP	Bare	HDD = Horizontal Directional Drill	109087543	0	0	$ 558.21	$ 9
237452096	1990-01-01 12:00:00	Existing	8	STW	HP	Bare	Joint Trench	905504	3336.324755	3336.324831	$ 364.06	$ 1,214,635
237458207	1962-01-01 12:00:00	Existing	8	STW	HP	Bare	Direct Bury	62300	2721.451821	2721.451803	$ 364.06	$ 990,782
237448554	1969-01-01 12:00:00	Existing	8	STW	HP	Bare	Direct Bury	69S528	2648.980039	2648.980036	$ 364.06	$ 964,398
237459064	1990-01-01 12:00:00	Existing	8	STW	HP	Bare	Joint Trench	905504	2187.08674	2187.086749	$ 364.06	$ 796,239
237443245	1960-01-01 12:00:00	Existing	8	STW	HP	Bare	Direct Bury	60-323	2144.359452	2144.359439	$ 364.06	$ 780,684
237455350	1990-01-01 12:00:00	Existing	8	STW	HP	Bare	Joint Trench	905504	1558.4181	1558.418071	$ 364.06	$ 567,364
237465301	1969-01-01 12:00:00	Existing	8	STW	HP	Bare	Direct Bury	69S528	1536.597931	1536.597894	$ 364.06	$ 559,420
237447808	1990-01-01 12:00:00	Existing	8	STW	HP	Bare	Joint Trench	905504	1308.527817	1308.527819	$ 364.06	$ 476,388
237457435	1962-01-01 12:00:00	Existing	8	STW	HP	Bare	Direct Bury	MC27925	1307.772578	1307.772612	$ 364.06	$ 476,113
237444046	1969-01-01 12:00:00	Existing	8	STW	HP	Bare	Direct Bury	69S528	1141.635064	1141.635038	$ 364.06	$ 415,628
237460286	1969-01-01 12:00:00	Existing	8	STW	HP	Bare	Direct Bury	69S528	1048.166739	1048.166773	$ 364.06	$ 381,600
237466664	1969-01-01 12:00:00	Existing	8	STW	HP	Bare	Direct Bury	69S528	880.3560257	880.3560526	$ 364.06	$ 320,506
108564896	2018-08-22 12:00:00	Existing	8	STW	HP	Bare	Unknown	109079712	697.2491195	697.2491099	$ 364.06	$ 253,843
237459873	1960-01-01 12:00:00	Existing	8	STW	HP	Bare	Direct Bury	60-323	648.7775627	648.7775825	$ 364.06	$ 236,196
237455013	1990-01-01 12:00:00	Existing	8	STW	HP	Bare	Joint Trench	905504	611.9864595	611.9864687	$ 364.06	$ 222,802
237459445	1990-01-01 12:00:00	Existing	8	STW	HP	Bare	Direct Bury	905504	460.5532305	460.5532391	$ 364.06	$ 167,671
237462624	1960-01-01 12:00:00	Existing	8	STW	HP	Bare	Direct Bury	60-323	375.4365119	375.4365587	$ 364.06	$ 136,683
237454563	1969-01-01 12:00:00	Existing	8	STW	HP	Bare	Direct Bury	69S528	371.711145	371.7111561	$ 364.06	$ 135,327
237438983	1960-01-01 12:00:00	Existing	8	STW	HP	Bare	Direct Bury	60S323	354.6525437	354.6525644	$ 364.06	$ 129,116
108564934	2018-08-22 12:00:00	Existing	8	STW	HP	Bare	Unknown	109079712	336.7320086	336.7320558	$ 364.06	$ 122,592
237473235	1960-01-01 12:00:00	Existing	8	STW	HP	Bare	Direct Bury	60-323	335.7087891	335.708801	$ 364.06	$ 122,219
108564888	2018-08-22 12:00:00	Existing	8	STW	HP	Bare	Unknown	109079712	300.8207403	300.8207913	$ 364.06	$ 109,518
237463036	1960-01-01 12:00:00	Existing	8	STW	HP	Bare	Direct Bury	60-323	297.5762953	297.5762872	$ 364.06	$ 108,337
27065086	2012-10-12 12:00:00	Existing	8	STW	HP	Bare	Joint Trench	109037731	293.9566841	293.9566907	$ 364.06	$ 107,019
108564917	2018-08-22 12:00:00	Existing	8	STW	HP	Bare	Unknown	109079712	259.162676	259.1626304	$ 364.06	$ 94,352
108564880	2018-08-22 12:00:00	Existing	8	STW	HP	Bare	Unknown	109079712	245.6176853	245.6176527	$ 364.06	$ 89,421
108564900	2018-08-22 12:00:00	Existing	8	STW	HP	Bare	Unknown	109079712	240.9265055	240.926506	$ 364.06	$ 87,713
237453601	2005-01-01 12:00:00	Existing	8	STW	HP	Bare	Direct Bury	109017759	236.9066903	236.9066853	$ 364.06	$ 86,249
237470062	2005-01-01 12:00:00	Existing	8	STW	HP	Bare	Direct Bury	109017759	213.7512787	213.751302	$ 364.06	$ 77,819
237467456	1960-01-01 12:00:00	Existing	8	STW	HP	Bare	Direct Bury	60-323	186.8327756	186.8327712	$ 364.06	$ 68,019
237450501	1991-07-18 12:00:00	Existing	8	STW	HP	Bare	Joint Trench	905504	159.7781982	159.7781566	$ 364.06	$ 58,169
108564928	2018-08-22 12:00:00	Existing	8	STW	HP	Bare	Unknown	109079712	154.4377158	154.437688	$ 364.06	$ 56,225
237461450	2001-01-01 12:00:00	Existing	8	STW	HP	Bare	Direct Bury	109008726	149.9974911	149.9974697	$ 364.06	$ 54,609
237467186	1969-01-01 12:00:00	Existing	8	STW	HP	Bare	Direct Bury	69S528	132.2374068	132.2374491	$ 364.06	$ 48,143
237467465	1960-01-01 12:00:00	Existing	8	STW	HP	Bare	Direct Bury	60S323	126.9992247	126.9992497	$ 364.06	$ 46,236
27065084	2012-10-12 12:00:00	Existing	8	STW	HP	Bare	Joint Trench	109037731	120.6521059	120.6521088	$ 364.06	$ 43,925
237472806	1962-01-01 12:00:00	Existing	8	STW	HP	Bare	Direct Bury	60S323	106.2629996	106.2629977	$ 364.06	$ 38,687
108564951	2018-08-22 12:00:00	Existing	8	STW	HP	Bare	Unknown	109079712	101.8823796	101.8823366	$ 364.06	$ 37,092
27065082	2012-10-12 12:00:00	Existing	8	STW	HP	Bare	Joint Trench	109037731	94.99623441	94.99620746	$ 364.06	$ 34,585
108564876	2018-08-22 12:00:00	Existing	8	STW	HP	Bare	Unknown	109079712	74.08003908	74.08001243	$ 364.06	$ 26,970
108022977	2012-10-12 12:00:00	Existing	8	STW	HP	Bare	Joint Trench	109037731	66.99073699	66.99076915	$ 364.06	$ 24,389
237453110	1969-01-01 12:00:00	Existing	8	STW	HP	Bare	Direct Bury	69S528	63.20621438	63.20619811	$ 364.06	$ 23,011
237471527	1960-01-01 12:00:00	Existing	8	STW	HP	Bare	Direct Bury	60-323	62.41142706	62.41139627	$ 364.06	$ 22,722
237440970	1969-01-01 12:00:00	Existing	8	STW	HP	Bare	Direct Bury	69S528	58.88087781	58.88086593	$ 364.06	$ 21,436
106941082	1990-01-01 12:00:00	Existing	8	STW	HP	Bare	Joint Trench	905504	57.01253851	57.01255162	$ 364.06	$ 20,756
108564891	2018-08-22 12:00:00	Existing	8	STW	HP	Bare	Unknown	109079712	53.99996887	53.99995403	$ 364.06	$ 19,659
14518034	1990-01-01 12:00:00	Existing	8	STWI	HP	Bare	Insert	905504	50.66120958	50.66121536	$ 364.06	$ 18,444
237448483	1990-01-01 12:00:00	Existing	8	STWI	HP	Bare	Insert	905504	50.21576858	50.21574596	$ 364.06	$ 18,282
108564879	2018-08-22 12:00:00	Existing	8	STW	HP	Bare	Unknown	109079712	50.00123644	50.00129733	$ 364.06	$ 18,204
108564938	2018-08-22 12:00:00	Existing	8	STW	HP	Bare	Unknown	109079712	47.99953046	47.99952396	$ 364.06	$ 17,475
108564950	2018-08-22 12:00:00	Existing	8	STW	HP	Bare	Unknown	109079712	44.90655986	44.90657992	$ 364.06	$ 16,349
108564939	2018-08-22 12:00:00	Existing	8	STW	HP	Bare	Unknown	109079712	41.9867788	41.98676157	$ 364.06	$ 15,286
237454714	1990-01-01 12:00:00	Existing	8	STW	HP	Bare	Joint Trench	905504	41.6568343	41.65687658	$ 364.06	$ 15,166
108564897	2018-08-22 12:00:00	Existing	8	STW	HP	Bare	Unknown	109079712	30.99608307	30.99607921	$ 364.06	$ 11,285
108564889	2018-08-22 12:00:00	Existing	8	STW	HP	Bare	Unknown	109079712	29.00080367	29.00080986	$ 364.06	$ 10,558

237445457	1969-01-01 12:00:00	Existing	8	STW	HP	Bare	Direct Bury	69S528	27.95107443	27.95105083	$	364.06	$ 10,176
108564906	2018-08-22 12:00:00	Existing	8	STW	HP	Bare	Unknown	109079712	24.73460761	24.73460769	$	364.06	$ 9,005
108564893	2018-08-22 12:00:00	Existing	8	STW	HP	Bare	Unknown	109079712	24.18684912	24.18680624	$	364.06	$ 8,806
108564902	2018-08-22 12:00:00	Existing	8	STW	HP	Bare	Unknown	109079712	24.00016239	24.00016454	$	364.06	$ 8,738
237443783	1969-01-01 12:00:00	Existing	8	STW	HP	Bare	Direct Bury	69S528	20.71192584	20.71191785	$	364.06	$ 7,540
108564925	2018-08-22 12:00:00	Existing	8	STW	HP	Bare	Unknown	109079712	17.00140743	17.00139971	$	364.06	$ 6,190
237438364	1962-01-01 12:00:00	Existing	8	STW	HP	Bare	Direct Bury	62-300	16.55495431	16.55495576	$	364.06	$ 6,027
108564873	2018-08-22 12:00:00	Existing	8	STW	HP	Bare	Unknown	109079712	15.99909312	15.99913136	$	364.06	$ 5,825
108564935	2018-08-22 12:00:00	Existing	8	STW	HP	Bare	Unknown	109079712	15.5455701	15.54555834	$	364.06	$ 5,660
237453677	2005-01-01 12:00:00	Existing	8	STW	HP	Bare	Direct Bury	109017759	15.00997318	15.00996447	$	364.06	$ 5,465
237439474	1960-01-01 12:00:00	Existing	8	STW	HP	Bare	Direct Bury	60-323	13.39752191	13.39752279	$	364.06	$ 4,878
237449771	1960-01-01 12:00:00	Existing	8	STW	HP	Bare	Direct Bury	60-323	12.16219599	12.16218346	$	364.06	$ 4,428
84617672	1969-01-01 12:00:00	Existing	8	STW	HP	Bare	Direct Bury	69S528	11.74654749	11.7465743	$	364.06	$ 4,277
237090302	1956-01-01 12:00:00	Existing	8	STW	HP	Bare	Direct Bury	56-124		11.45145207	$	364.06	$ 4,169
108382940	2017-07-17 12:00:00	Existing	8	STW	HP	Bare	Direct Bury	109087546	11.00158139	11.00157448	$	364.06	$ 4,005
109623614	2020-09-21 12:00:00	Existing	8	STW	HP	Bare	HDD = Horizontal Directional Drill	109087541	10.98464537	10.98463709	$	364.06	$ 3,999
109759827	2020-09-21 12:00:00	Existing	8	STW	HP	Bare	Unknown	109087543	10.53722818	10.53721963	$	364.06	$ 3,836
237438240	1960-01-01 12:00:00	Existing	8	STW	HP	Bare	Direct Bury	60S323	10.27315069	10.2731324	$	364.06	$ 3,740
108022978	2017-08-20 12:00:00	Existing	8	STW	HP	Bare	Direct Bury	109105710	10.00233696	10.00235901	$	364.06	$ 3,641
237456789	2005-01-01 12:00:00	Existing	8	STW	HP	Bare	Direct Bury	109017759	10.00118881	10.00118842	$	364.06	$ 3,641
237439439	2001-01-01 12:00:00	Existing	8	STW	HP	Bare	Direct Bury	109008726	10.00087313	10.0008993	$	364.06	$ 3,641
237461727	2001-01-01 12:00:00	Existing	8	STW	HP	Bare	Direct Bury	109008726	10.00058278	10.00056557	$	364.06	$ 3,641
108564915	2018-08-22 12:00:00	Existing	8	STW	HP	Bare	Unknown	109079712	9.9982137	9.998211711	$	364.06	$ 3,640
237441937	1969-01-01 12:00:00	Existing	8	STW	HP	Bare	Direct Bury	69S528	8.807482841	8.807484201	$	364.06	$ 3,206
237460264	1969-01-01 12:00:00	Existing	8	STW	HP	Bare	Direct Bury	69S528	8.439949282	8.439972487	$	364.06	$ 3,073
108564871	2018-08-22 12:00:00	Existing	8	STW	HP	Bare	Unknown	109079712	8.430090038	8.430072148	$	364.06	$ 3,069
108382936	2017-07-17 12:00:00	Existing	8	STW	HP	Bare	Direct Bury	109087546	7.998713442	7.998709647	$	364.06	$ 2,912
237442300	1960-01-01 12:00:00	Existing	8	STW	HP	Bare	Direct Bury	60S323	7.860563832	7.860523594	$	364.06	$ 2,862
14518032	1990-01-01 12:00:00	Existing	8	STW	HP	Bare	Direct Bury	905504	7.656406473	7.656382195	$	364.06	$ 2,787
237457334	1960-01-01 12:00:00	Existing	8	STW	HP	Bare	Direct Bury	60-323	7.543178855	7.543164725	$	364.06	$ 2,746
109623613	2020-09-21 12:00:00	Existing	8	STW	HP	Bare	HDD = Horizontal Directional Drill	109087541	7.320059487	7.320039921	$	364.06	$ 2,665
237465709	1969-01-01 12:00:00	Existing	8	STW	HP	Bare	Direct Bury	69S528	7.060595932	7.060620373	$	364.06	$ 2,571
108564926	2018-08-22 12:00:00	Existing	8	STW	HP	Bare	Unknown	109079712	6.999986718	7.000011987	$	364.06	$ 2,548
237464375	1960-01-01 12:00:00	Existing	8	STW	HP	Bare	Direct Bury	60-323	6.34677468	6.34675937	$	364.06	$ 2,311
109759830	2020-09-21 12:00:00	Existing	8	STW	HP	Bare	HDD = Horizontal Directional Drill	109087543	5.999470353	5.99944566	$	364.06	$ 2,184
84617674	1969-01-01 12:00:00	Existing	8	STW	HP	Bare	Direct Bury	69S528	5.654719473	5.654700766	$	364.06	$ 2,059
108564910	2018-08-22 12:00:00	Existing	8	STW	HP	Bare	Unknown	109079712	5.001524648	5.001534948	$	364.06	$ 1,821
109759828	2020-09-21 12:00:00	Existing	8	STW	HP	Bare	Unknown	109087543	5.001240842	5.001240601	$	364.06	$ 1,821
108564911	2018-08-22 12:00:00	Existing	8	STW	HP	Bare	Unknown	109079712	4.999166411	4.999183663	$	364.06	$ 1,820
237458913	2005-01-01 12:00:00	Existing	8	STW	HP	Bare	Direct Bury	109017759	4.997171892	4.997154267	$	364.06	$ 1,819
110218053	2020-09-21 12:00:00	Existing	8	STW	HP	Bare	HDD = Horizontal Directional Drill	109087541	4.304645788	4.304628332	$	364.06	$ 1,567
108659824	2017-08-20 12:00:00	Existing	8	STW	HP	Bare	Direct Bury	109105710	3.164784075	3.164769329	$	364.06	$ 1,152
108659825	2017-08-20 12:00:00	Existing	8	STW	HP	Bare	Direct Bury	109105710	2.545528047	2.545506941	$	364.06	$ 927
109759832	2020-09-21 12:00:00	Existing	6	STW	HP	Bare	Above Ground	109087543	12.56174106	12.56176184	$	178.33	$ 2,240
109623576	2020-09-21 12:00:00	Existing	6	STW	HP	Bare	Above Ground	109087541	3.409498268	3.409511129	$	178.33	$ 608
179272228		Existing	4	STW	HP	Bare	Direct Bury		117.368105	117.368086	$	105.59	$ 12,393
179272129		Existing	4	STW	HP	Bare	Direct Bury		43.63920948	43.63917623	$	105.59	$ 4,608
237467226	2007-01-01 12:00:00	Existing	4	STW	HP	Bare	Direct Bury	109035085	37.08481569	37.08479911	$	105.59	$ 3,916
179274510		Existing	4	STW	HP	Bare	Direct Bury		34.19889291	34.19886765	$	105.59	$ 3,611
237472710	2007-03-15 12:00:00	Existing	4	STW	HP	Bare	Direct Bury	109025043	26.79145237	26.79144207	$	105.59	$ 2,829
237453847	1990-01-01 12:00:00	Existing	4	STW	HP	Bare	Direct Bury	905504	26.57500991	26.57499478	$	105.59	$ 2,806
237438987	2007-01-01 12:00:00	Existing	4	STW	HP	Bare	Direct Bury	109035085	19.26922723	19.26918011	$	105.59	$ 2,035
237439857	1960-01-01 12:00:00	Existing	4	STW	HP	Bare	Direct Bury	60-323	17.48383968	17.48382981	$	105.59	$ 1,846
179257304	2008-01-01 12:00:00	Existing	4	STW	HP	Bare	Direct Bury	109038855	15.68802099	15.68802951	$	105.59	$ 1,657
237459081		Existing	4	STW	HP	Bare	Direct Bury		14.24293201	14.2429196	$	105.59	$ 1,504
237440954	1960-01-01 12:00:00	Existing	4	STW	HP	Bare	Direct Bury	60S323	14.11740036	14.11737096	$	105.59	$ 1,491
237088353	1956-01-01 12:00:00	Existing	4	STW	HP	Bare	Direct Bury	56-124		12.70617863	$	105.59	$ 1,342
179258048		Existing	4	STW	HP	Bare	Direct Bury		12.67242341	12.67243494	$	105.59	$ 1,338
179257582		Existing	4	STW	HP	Bare	Direct Bury		12.04401595	12.04402228	$	105.59	$ 1,272
179266648		Existing	4	STW	HP	Bare	Direct Bury		11.71309976	11.71314582	$	105.59	$ 1,237
179259478		Existing	4	STW	HP	Bare	Direct Bury		11.48560798	11.48558836	$	105.59	$ 1,213
13019408	2007-03-15 12:00:00	Existing	4	STW	HP	Bare	Direct Bury	109025043	10.7707933	10.77084184	$	105.59	$ 1,137
179257571		Existing	4	STW	HP	Bare	Direct Bury		10.20701282	10.20695577	$	105.59	$ 1,078
179255869		Existing	4	STW	HP	Bare	Direct Bury		9.875219451	9.875202541	$	105.59	$ 1,043
237467364	1960-01-01 12:00:00	Existing	4	STW	HP	Bare	Direct Bury	60S323	8.91695644	8.916958272	$	105.59	$ 942
179259354		Existing	4	STW	HP	Bare	Direct Bury		8.9106	8.910644531	$	105.59	$ 941
179270116		Existing	4	STW	HP	Bare	Direct Bury		8.5138	8.513793945	$	105.59	$ 899
179263694		Existing	4	STW	HP	Bare	Direct Bury		8.3826	8.382568359	$	105.59	$ 885
237438429		Existing	4	STW	HP	Bare	Direct Bury		7.306505156	7.306501886	$	105.59	$ 772
109759829	2020-09-21 12:00:00	Existing	4	STW	HP	Bare	Above Ground	109087543	6.369560817	6.369542935	$	105.59	$ 673
109623627	2020-09-21 12:00:00	Existing	4	STW	HP	Bare	Above Ground	109087543	6.366366034	6.366372592	$	105.59	$ 672
179274418		Existing	4	STW	HP	Bare	Direct Bury		5.452698653	5.452674559	$	105.59	$ 576
179258025		Existing	4	STW	HP	Bare	Direct Bury		5.197103505	5.197125222	$	105.59	$ 549
237457959	1960-01-01 12:00:00	Existing	4	STW	HP	Bare	Direct Bury	60S323	4.968932408	4.968894571	$	105.59	$ 525
237443758	2007-03-15 12:00:00	Existing	4	STW	HP	Bare	Direct Bury	109025043	4.75986412	4.759831746	$	105.59	$ 503
237444452		Existing	0.75	STW	HP	Bare	Direct Bury			8.00117618	$	193.61	$ 1,549
237445167	2007-11-14 12:00:00	Existing	0.75	STW	HP	Bare	Direct Bury	108526097	5.738989657	5.739010115	$	193.61	$ 1,111
Total Replacement Cost													$ 53,320,751

Id	Date Installed	Status	Nominal Diameter	Material	Pressure	Internal Coating	Install Method	Pse Job Num	STLength()	Unit Cost	2023 Cost
107514758	1/1/1956 12:00	Existing	16	STW	HP	Bare	Direct Bury	56-124	6.378707	$ 741.66	$ 4,731
107892051	1/1/1956 12:00	Existing	16	STW	HP	Bare	Direct Bury	56-124	653.387833	$ 741.66	$ 484,593
110942286	1/1/1956 12:00	Existing	16	STW	HP	Bare	Direct Bury	56-124	503.901591	$ 741.66	$ 373,724
111007176	1/1/1956 12:00	Existing	16	STW	HP	Bare	Direct Bury	56-124	1082.920132	$ 741.66	$ 803,160
111007182	1/1/1956 12:00	Existing	16	STW	HP	Bare	Direct Bury	56-124	684.000044	$ 741.66	$ 507,296
111007303	1/1/1956 12:00	Existing	16	STW	HP	Bare	Direct Bury	56-124	150.343448	$ 741.66	$ 111,504
111007319	1/1/1956 12:00	Existing	16	STW	HP	Bare	Direct Bury	56-124	250.138878	$ 741.66	$ 185,518
111007509	1/1/2003 12:00	Existing	16	STW	HP	Bare	Direct Bury	109001662	432.378743	$ 741.66	$ 320,679
111007655	1/1/1956 12:00	Existing	16	STW	HP	Bare	Direct Bury	56-124	23.927476	$ 741.66	$ 17,746
111008359	1/1/2003 12:00	Existing	16	STW	HP	Bare	Direct Bury	109001662	1563.020382	$ 741.66	$ 1,159,232
111008499	1/1/1956 12:00	Existing	16	STW	HP	Bare	Direct Bury	56-124	395.439788	$ 741.66	$ 293,282
111008781	1/1/1956 12:00	Existing	16	STW	HP	Bare	Direct Bury	56-124	673.339659	$ 741.66	$ 499,390
111008923	20455.5	Existing	16	STW	HP	Bare	Direct Bury	56-124	44.398044	$ 741.66	$ 32,928
111009286	1/1/1956 12:00	Existing	16	STW	HP	Bare	Direct Bury	56-124	473.036844	$ 741.66	$ 350,833
111009287	1/1/1956 12:00	Existing	16	STW	HP	Bare	Direct Bury	56-124	55.61187	$ 741.66	$ 41,245
111009431	1/1/1956 12:00	Existing	16	STW	HP	Bare	Direct Bury	56-124	1179.90607	$ 741.66	$ 875,091
111009483	1/1/1956 12:00	Existing	16	STW	HP	Bare	Direct Bury	56-124	601.608221	$ 741.66	$ 446,190
111009576	1/1/1956 12:00	Existing	16	STW	HP	Bare	Direct Bury	56-134	30.15774	$ 741.66	$ 22,367
111010167	1/1/1956 12:00	Existing	16	STW	HP	Bare	Direct Bury	56-124	1189.67993	$ 741.66	$ 882,340
111010227	1/1/1956 12:00	Existing	16	STW	HP	Bare	Direct Bury	56-134	38.513773	$ 741.66	$ 28,564
111010376	1/1/1956 12:00	Existing	16	STW	HP	Bare	Direct Bury	56-124	15.626464	$ 741.66	$ 11,590
111010439	20455.5	Existing	16	STW	HP	Bare	Direct Bury	56124	30.38851	$ 741.66	$ 22,538
111010692	1/1/1956 12:00	Existing	16	STW	HP	Bare	Direct Bury	56-134	2724.147716	$ 741.66	$ 2,020,395
111010796	1/1/1956 12:00	Existing	16	STW	HP	Bare	Direct Bury	56124	1634.809108	$ 741.66	$ 1,212,475
111011155	1/1/1956 12:00	Existing	16	STW	HP	Bare	Direct Bury	124	31.333906	$ 741.66	$ 23,239
111011163	20455.5	Existing	16	STW	HP	Bare	Direct Bury	124	1226.757147	$ 741.66	$ 909,838
111044670	1/1/1956 12:00	Existing	16	STW	HP	Bare	Direct Bury	56-124	495.754004	$ 741.66	$ 367,682
111044671	11/22/2022 12:00	Existing	16	STW	HP	Bare	Joint Trench	109118420	23.001349	$ 741.66	$ 17,059
111044674	11/22/2022 12:00	Existing	20	STW	HP	Bare	Joint Trench	109118420	15.000367	$ 613.86	$ 9,208
111044675	11/22/2022 12:00	Existing	16	STW	HP	Bare	Joint Trench	109118420	7.002919	$ 741.66	$ 5,194
111044676	11/22/2022 12:00	Existing	20	STW	HP	Bare	Joint Trench	109118420	2749.732739	$ 613.86	$ 1,687,954
111065995	11/22/2022 12:00	Existing	16	STW	HP	Bare	Joint Trench	109118420	11.999691	$ 741.66	$ 8,900
111065996	11/22/2022 12:00	Existing	20	STW	HP	Bare	Joint Trench	109118420	15.000575	$ 613.86	$ 9,208
237067412	1/1/1956 12:00	Existing	16	STW	HP	Bare	Direct Bury	56-124	44.87384	$ 741.66	$ 33,281
237068313	1/1/1956 12:00	Existing	16	STW	HP	Bare	Direct Bury	56-124	73.434254	$ 741.66	$ 54,463
237068744	1/1/1956 12:00	Existing	16	STW	HP	Bare	Direct Bury	56-124	907.097492	$ 741.66	$ 672,759
237069283	1/1/1956 12:00	Existing	16	STW	HP	Bare	Direct Bury	56-124	10.51514	$ 741.66	$ 7,799
237069285	1/1/1956 12:00	Existing	16	STW	HP	Bare	Direct Bury	56-124	1575.838944	$ 741.66	$ 1,168,739
237069410	1/1/2003 12:00	Existing	16	STW	HP	Bare	Direct Bury	109001662	15.838858	$ 741.66	$ 11,747
237069984	1/1/2003 12:00	Existing	16	STW	HP	Bare	Direct Bury	109001662	1474.105254	$ 741.66	$ 1,093,287
237070127	1/1/1956 12:00	Existing	16	STWI	HP	Bare	Insert	56-124	36.00835	$ 741.66	$ 26,706
237070196	1/1/1956 12:00	Existing	16	STW	HP	Bare	Direct Bury	56-124	571.471437	$ 741.66	$ 423,838
237071003	1/1/1956 12:00	Existing	16	STW	HP	Bare	Direct Bury	56-124	11.001731	$ 741.66	$ 8,160
237071292	37622.5	Existing	16	STWI	HP	Bare	Insert	109001662	44.488397	$ 741.66	$ 32,995
237071632	1/1/1956 12:00	Existing	16	STW	HP	Bare	Direct Bury	56-124	134.30717	$ 741.66	$ 99,610
237072275	1/1/2003 12:00	Existing	16	STW	HP	Bare	Direct Bury	109001662	3.169495	$ 741.66	$ 2,351
237072724	1/1/2003 12:00	Existing	16	STW	HP	Bare	Direct Bury	109001662	582.309457	$ 741.66	$ 431,876
237072747	1/1/1956 12:00	Existing	16	STW	HP	Bare	Direct Bury	56-124	94.324798	$ 741.66	$ 69,957
237073510	1/1/1956 12:00	Existing	16	STWI	HP	Bare	Insert	56124	33.605806	$ 741.66	$ 24,924
237074566	1/1/1956 12:00	Existing	16	STW	HP	Bare	Direct Bury	56-124	849.84858	$ 741.66	$ 630,300
237074590	1/1/2003 12:00	Existing	16	STW	HP	Bare	Direct Bury	109001662	344.67142	$ 741.66	$ 255,630
237075215	1/1/1956 12:00	Existing	16	STW	HP	Bare	Direct Bury	56-124	23.003188	$ 741.66	$ 17,061
237076602	1/1/2003 12:00	Existing	16	STW	HP	Bare	Direct Bury	109001662	421.699187	$ 741.66	$ 312,758
237076666	1/1/2003 12:00	Existing	16	STW	HP	Bare	Direct Bury	109001662	694.346903	$ 741.66	$ 514,970
237076862	1/1/1956 12:00	Existing	16	STW	HP	Bare	Direct Bury	56-124	637.76022	$ 741.66	$ 473,002
237077851	1/1/1956 12:00	Existing	16	STW	HP	Bare	Direct Bury	56124	2278.477024	$ 741.66	$ 1,689,859
237078332	1/1/1956 12:00	Existing	16	STW	HP	Bare	Direct Bury	56-124	14.597031	$ 741.66	$ 10,826
237078649	1/1/1956 12:00	Existing	16	STWI	HP	Bare	Insert	56124	88.670253	$ 741.66	$ 65,763
237079375	1/1/1956 12:00	Existing	16	STW	HP	Bare	Direct Bury	56-124	12.201582	$ 741.66	$ 9,049
237080556	1/1/1956 12:00	Existing	16	STW	HP	Bare	Direct Bury	56-124	60.1934	$ 741.66	$ 44,643
237081291	1/1/1956 12:00	Existing	16	STW	HP	Bare	Direct Bury	56-134	20.695819	$ 741.66	$ 15,349
237081583	1/1/1956 12:00	Existing	16	STWI	HP	Bare	Insert	56-124	39.489504	$ 741.66	$ 29,288
237082416	1/1/1956 12:00	Existing	16	STW	HP	Bare	Direct Bury	56-124	16.81928	$ 741.66	$ 12,474
237085988	1/1/1956 12:00	Existing	16	STW	HP	Bare	Direct Bury	56124	1586.671827	$ 741.66	$ 1,176,773
237086141	1/1/2003 12:00	Existing	16	STW	HP	Bare	Direct Bury	109001662	36.163952	$ 741.66	$ 26,821
237087951	1/1/1956 12:00	Existing	16	STW	HP	Bare	Direct Bury	56124	974.511017	$ 741.66	$ 722,757
237088415	1/1/2003 12:00	Existing	16	STW	HP	Bare	Direct Bury	109001662	304.421912	$ 741.66	$ 225,778
237088827	1/1/1956 12:00	Existing	16	STW	HP	Bare	Direct Bury	56-124	73.641212	$ 741.66	$ 54,617
237088833	20455.5	Existing	16	STW	HP	Bare	Direct Bury	56-124	403.923424	$ 741.66	$ 299,574
237089488	1/1/1956 12:00	Existing	16	STW	HP	Bare	Direct Bury	56-124	4.505827	$ 741.66	$ 3,342
237089856	20455.5	Existing	16	STW	HP	Bare	Direct Bury	56-124	5.42	$ 741.66	$ 4,019
237090920	20455.5	Existing	16	STW	HP	Bare	Direct Bury	56-124	287.322878	$ 741.66	$ 213,096
237091092	37622.5	Existing	16	STW	HP	Bare	Direct Bury	109001662	1270.002039	$ 741.66	$ 941,912
237091481	20455.5	Existing	16	STW	HP	Bare	Direct Bury	56-124	14.01845	$ 741.66	$ 10,397
237091693	20455.5	Existing	16	STW	HP	Bare	Direct Bury	124	73.382351	$ 741.66	$ 54,425
237091831	20455.5	Existing	16	STWI	HP	Bare	Insert	56-124	37.688082	$ 741.66	$ 27,952
237092198	37622.5	Existing	16	STW	HP	Bare	Direct Bury	109001662	14.559247	$ 741.66	$ 10,798
237092418	20455.5	Existing	16	STWI	HP	Bare	Insert	56-124	7.524734	$ 741.66	$ 5,581
237926197	37622.5	Existing	16	STW	HP	Bare	Direct Bury	109001662	1069.19441	$ 741.66	$ 792,980
111101166	45233.5	Existing	16	STW	HP	Bare	Direct Bury	109137862	32.99917	$ 741.66	$ 24,474
111101167	20455.5	Existing	16	STW	HP	Bare	Direct Bury	56-124	212.697329	$ 741.66	$ 157,749

111101172	45233.5	Existing	16	STW	HP	Bare	Direct Bury	109137862	35.000152	$	741.66	$ 25,958
111101173	20455.5	Existing	16	STW	HP	Bare	Direct Bury	56-124	11.992957	$	741.66	$ 8,895
111101174	45233.5	Existing	16	STW	HP	Bare	HDD = Horizontal Directional Drill	109137862	528.973814	$	741.66	$ 392,319
111101180	45233.5	Existing	16	STW	HP	Bare	Direct Bury	109137862	35.000352	$	741.66	$ 25,958
111101181	45233.5	Existing	16	STW	HP	Bare	Direct Bury	109137862	3.087697	$	741.66	$ 2,290
111101185	20455.5	Existing	16	STW	HP	Bare	Direct Bury	56-124	12.025411	$	741.66	$ 8,919
111167452	20455.5	Existing	16	STW	HP	Bare	Direct Bury	56-124	544.227633	$	741.66	$ 403,633
Total Replacement Cost												$ 27,610,179

Puget Sound Energy
2024 Gas General Rate Case (Dockets UE-240004 & UG-240005)
Account 376, Costs by Size and Type (2023$), as of June 30, 2023
Test Year Ended June 30, 2023

Group	Size	Costs by Type 2023 $	Total Quantity	Size	Unit Cost
a	1.125 PE	$ 4,390,049	80,580		$ 54.48
a	1.25 PE	$ 284,969,613	11,044,474		$ 25.80
b	2 PE	$ 1,340,468,091	28,589,095		$ 46.89
b	3 PE	$ 4,290,657	62,856		$ 68.26
c	4 PE	$ 490,404,819	6,223,279		$ 78.80
c	6 PE	$ 427,491,263	2,945,579		$ 145.13
c	8 PE	$ 220,338,250	1,004,974		$ 219.25
a	.75-1.75 ST	$ 5,615	29	0.75	$ 193.61
a	1.25 ST	$ 520,265,510	13,055,334	1.25	$ 39.85
b	2 ST	$ 225,352,776	3,505,918	2.00	$ 64.28
b	3 ST	$ 1,254,631	12,173	3.00	$ 103.07
c	4 ST	$ 294,038,331	2,784,666	4.00	$ 105.59
c	6 ST	$ 333,500,473	1,870,166	6.00	$ 178.33
c	8 ST	$ 292,310,531	802,910	8.00	$ 364.06
c	12 ST	$ 420,651,289	753,575	12.00	$ 558.21
c	16 ST	$ 616,808,678	831,658	16.00	$ 741.66
c	20 ST	$ 24,089,141	39,242	20.00	$ 613.86
	Total	$ 5,500,629,717	73,606,508		

BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

Dockets UE-240004 & UG-240005
Puget Sound Energy
2024 General Rate Case

AWEC DATA REQUEST NO. 081:

RE: Cost of Service Study

Please refer to Exhibit LDK-1T at 33. Does PSE agree that if a COSS indicates that a schedule has a parity ratio of 1, and the Commission finds that a rate increase is warranted, it is fair to increase the schedules rate by the average rate increase? If no, why not?

Response:

If a cost of service study shows that a customer class has a parity ratio of 1, it would typically be equitable to apply the average system rate increase to that class. However, additional factors—such as the cost allocation methodology and any other regulatory considerations or WAC rules—must be evaluated before determining the appropriateness of applying an average system increase. For a more detailed discussion of rate design principles that can impact proposals for rate class increases please see the direct testimony of John D. Taylor Exhibit-JDT-1T at pages 25 and 26.

BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

Dockets UE-240004 & UG-240005
Puget Sound Energy
2024 General Rate Case

AWEC DATA REQUEST NO. 083:

RE: Cost of Service Study

Please refer to Exhibit JDT-11 (Rate Des Sum) cells I52-I57. Please explain why a 21 percent rate decrease is warranted for Schedule 88T in 2026.

Response:

For Schedule 88T, the revenue proposed in Rate Year 1 is a 300 percent increase that takes them to parity. For Rate Year 2, the reason for a slight decrease, even though the revenues are identical is due to an increase in forecasted volumes from 39,295,144 therms to 51,695,658 therms, a 32 percent increase, resulting in a lower volumetric rate while maintaining revenue neutrality for the class.

BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

Dockets UE-240004 & UG-240005
Puget Sound Energy
2024 General Rate Case

AWEC DATA REQUEST NO. 085:

RE: Cost of Service Study

Please refer to JDT-10 E-Summary of Results (PSE) and Exhibit JDT-11 (Rate Spread):

a. What year of costs are reflected in JDT-10 E-Summary of Results (PSE)?

b. Is the target revenue for Schedule 88T in Rate Year 1 and Rate Year 2 in Exhibit JDT-11 (Rate Spread), lines 8 and 20, calculated as the difference between line 10 (row 21) of JDT-10 E-Summary of Results(PSE) and revenue at current rates in lines 4 and 16 (rows 12 and 25) of Exhibit JDT-11 (Rate Spread)? If no, please explain how the target revenue is calculated.

c. Please confirm that PSE does not allocate the revenue delta on lines 9 and 21 of Exhibit JDT-11 (Rate Spread) to Schedule 88T.

d. Please refer to the attachment AWEC Data Request 85 Attachment 1. Please confirm that the attachment sets all rate schedules to cost in a similar manner as PSE proposes for Schedule 88T. If not confirmed, please explain the difference, and provide a version of Exhibit JDT-11 where PSE's rate spread for Schedule 88T is applied to all schedules.

e. Please confirm that if PSE's proposed treatment for Schedule 88T is applied to all schedules, revenues will fall short of PSE's revenue requirement in Rate Year 1 by $125 million and in Rate Year 2 by $150 million. If not confirmed, provide the revenue that would result in each rate year if the treatment for Schedule 88T is applied to all customers.

Response:

a. The test year costs for the twelve-month period that ended June 30, 2023, are reflected in the Second Exhibit to the Prefiled Rebuttal Testimony of John D. Taylor, Exh. JDT-10, tab JDT-10 E-Summary of Results (PSE). This is because the underlying allocators, such as demand, remain relatively stable for the outer years. Additionally, the relationship between the type of expenses and revenues associated with PSE's proportional allocation method remains consistent. As a

result, it is not feasible to perform a customer-specific cost of service analysis for Rate Years 1 and 2, as customers' contract demand and other behaviors could change in the outer years, potentially affecting the results of the cost of service and parity ratios. However, subsequent general rate cases will capture any changes in customer behavior and restore the accuracy of the cost of service and parity ratios for those customers in the long run.

b. Correct, the target revenue for Schedule 88T in Rate Year 1 and Rate Year 2, reflected in the Third Exhibit to the Prefiled Rebuttal Testimony of John D. Taylor, Exh. JDT-11, tab JDT-10 (Rate Spread) lines 8 and 20, is calculated as the difference between JDT-10 E-Summary of Results (PSE), line 10 (row 21), and the revenue at current rates in Exhibit JDT-11, lines 4 and 16 (rows 12 and 25).
c. Correct, Puget Sound Energy (“PSE”) does not allocate the revenue delta from Exhibit JDT-11, tab JDT-11 (Rate Spread), lines 9 and 21, to Schedule 88T, as it is proposing to move Schedule 88T to its exact cost to serve (parity ratio of 1.00).
d. AWEC provided the attachment in AWEC Data Request No. 085, which appears to set all rate schedules to cost in a similar manner to PSE’s proposal for Schedule 88T. However, without access to the underlying calculations and detailed cost of service study, it is impossible to confirm this with certainty. To confirm, the answer is both "yes" and "no". Yes, it appears that the attachment sets rate schedules to cost in a similar manner to PSE's proposal for Schedule 88T. However, no, it is worth noting that the attachment appears to utilize PSE's WAC compliance cost of service, rather than the cost of service that PSE relied upon, which had a rule exemption.
e. Correct, if PSE’s proposed treatment for Schedule 88T were applied to all schedules, it would result in a significant revenue shortfall. Specifically, it would cause revenues to fall short of PSE’s revenue requirement in Rate Year 1 by $125 million and Rate Year 2 by $150 million. However, this approach is not justified because Schedule 88T is a unique case. Similar to a Special Contract class, the infrastructure was directly allocated to the single Schedule 88T customer, along with its proportional operating costs, has already covered all the costs to serve this customer; especially since there are not upgrades or additional plant requiring direct assignment for this customer class. In contrast, the other classes do not have the same level of cost recovery and direct assignment, and applying this treatment to all schedules would exacerbate the revenue shortfalls associated with serving these other classes.

BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

Dockets UE-240004 & UG-240005
Puget Sound Energy
2024 General Rate Case

AWEC DATA REQUEST NO. 086:

RE: Cost of Service Study

Please also refer to Exhibit JDT-8T at 21, Table 2. Please provide all workpapers and calculations underlying this table.

Response:

See Attachment A to Puget Sound Energy's ("PSE") Response to AWEC Data Request No. 086 as part of PSE's response. The column "Total" represents the Company's proposed revenue of $783,493,199 multiplied by the overall system increase times each class's multiple of system increase found in AWEC Table 8.

ATTACHMENT A to PSE's Response to AWEC Data Request No. 086

	PSE / Staff		% of Total		Public Counsel		% of Total		Nucor		% of Total	
	RY1	RY2	RY1	RY2	RY1	RY2	RY1	RY2	RY1	RY2	RY1	RY2
Residential	524,713,931	537,674,349	67.0%	66.7%	524,136,077	537,379,088	66.9%	66.6%	525,204,592	538,259,201	67.0%	66.8%
Comm. & Indus.	198,208,289	206,177,202	25.3%	25.6%	198,199,613	205,709,071	25.3%	25.5%	198,439,235	206,454,540	25.3%	25.6%
Large Volume	33,959,553	35,104,225	4.3%	4.4%	34,480,127	35,604,126	4.4%	4.4%	33,995,979	35,147,827	4.3%	4.4%
Interruptible	14,085,787	14,470,166	1.8%	1.8%	14,085,170	14,437,312	1.8%	1.8%	13,479,310	13,807,472	1.7%	1.7%
Limited Interruptible	1,585,588	1,584,522	0.2%	0.2%	1,585,539	1,581,963	0.2%	0.2%	1,559,490	1,556,516	0.2%	0.2%
Non-Exclusive Interruptible	8,733,309	9,016,040	1.1%	1.1%	8,135,240	8,342,349	1.0%	1.0%	7,785,311	7,978,408	1.0%	1.0%
Exclusive Interruptible	516,784	516,784	0.1%	0.1%	1,181,475	1,489,380	0.2%	0.2%	1,339,325	1,339,325	0.2%	0.2%
Contracts	1,689,959	1,826,835	0.2%	0.2%	1,689,959	1,826,835	0.2%	0.2%	1,689,959	1,826,835	0.2%	0.2%
Total	783,493,199	806,370,124	100.0%	100.0%	783,493,199	806,370,124	100%	100%	783,493,199	806,370,124	100.0%	100.0%

	(1)		(2)		(3)			
	PSE / Staff		**Public Counsel**		**Nucor**		**AWEC**	
	Revenues	**% of Total**	**Revenues**	**% of Total**	**Revenues**	**% of Total**	**Revenues**	**% of Total**
Residential (16,23,53)	524,714	67.0%	524,136	66.9%	525,205	67.0%	532,806	68.0%
Comm. & Indus. (31,31T)	198,208	25.3%	198,200	25.3%	198,439	25.3%	194,355	24.8%
Large Volume (41,41T)	33,960	4.3%	34,480	4.4%	33,996	4.3%	32,363	4.1%
Interruptible (85, 85T)	14,086	1.8%	14,085	1.8%	13,479	1.7%	13,812	1.8%
Limited Interruptible (86, 86T)	1,586	0.2%	1,586	0.2%	1,559	0.2%	1,305	0.2%
Non-Exclusive Interruptible (87, 87T)	8,733	1.1%	8,135	1.0%	7,785	1.0%	5,713	0.7%
Exclusive Interruptible (88T)	517	0.1%	1,181	0.2%	1,339	0.2%	1,571	0.2%
Contracts	1,690	0.2%	1,690	0.2%	1,690	0.2%	1,567	0.2%
Total	**783,493**	**100.0%**	**783,493**	**100.0%**	**783,493**	**100.0%**	**783,493**	**100.0%**

(1) - Dismukes Exhibit DED-8
(2) - Nucor WP 240004-05-PSE-WP-JDT-5-GAS-RATE-SPREAD-DESIGN-24GRC-02-2024
(3) - AWEC's revenue apportionment was calculated using its proposed rate spread (Table 8) to PSE's revenue requirement

	Average of All Parties	
	Revenues	**% of Total**
Residential (16,23,53)	526,715	67.2%
Comm. & Indus. (31,31T)	197,301	25.2%
Large Volume (41,41T)	33,700	4.3%
Interruptible (85, 85T)	13,866	1.8%
Limited Interruptible (86, 86T)	1,509	0.2%
Non-Exclusive Interruptible (87, 87T)	7,592	1.0%
Exclusive Interruptible (88T)	1,152	0.1%
Contracts	1,659	0.2%
Total	**783,493**	**100.0%**

Puget Sound Energy
2024 Gas General Rate Case (Dockets UE-240004 & UG-240005)
Gas Rate Spread & Design
Rate Spread

Line No.	Description	Total	Total Check	Residential (16,23,53)	Comm. & Indus. (31,31T)	Large Volume (41,41T)	Interruptible (85, 85T)	Limited Interruptible (86, 86T)	Non-Exclusive Interruptible (87, 87T)	Exclusive Interruptible (88T)	Contracts
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)
1	**GCOS Parity Ratio**	1.00		1.09	0.81	0.93	0.83	1.29	1.47	1.15	2.26
2	**Targeted Multiple of System Increase**			0.90	1.25	1.10	1.25	0.75	1.50	-	-
3	**Base Deficiency Allocation - Rate Year 1**										
4	Revenue at Current Rates	$ 535,878,245	-	$ 370,022,539	$ 125,397,647	$ 22,475,459	$ 8,911,456	$ 1,175,918	$ 5,147,033	$ 1,181,475	$ 1,566,717
5	Base Deficiency	$ 247,614,954									
6	Percent Increase Excluding Contracts & Sch. 88T	46.45%									
7	Targeted Percent Increase			41.80%	58.06%	51.09%	58.06%	34.83%	69.67%	0.00%	0.00%
8	Targeted Revenue Increase	$ 247,585,382	-	$ 154,672,958	$ 72,801,966	$ 11,482,725	$ 5,173,714	$ 409,621	$ 3,585,848	$ (664,691)	$ 123,241
9	Delta	$ 29,572									
10	Allocation of Delta	$ 29,572	-	$ 18,434	$ 8,677	$ 1,369	$ 617	$ 49	$ 427		
11	Targeted Revenue Increase Incl. Delta	$ 247,614,954	-	$ 154,691,392	$ 72,810,642	$ 11,484,094	$ 5,174,330	$ 409,670	$ 3,586,276	$ (664,691)	$ 123,241
12	Total Proposed Revenue	$ 783,493,199	-	$ 524,713,931	$ 198,208,289	$ 33,959,553	$ 14,085,787	$ 1,585,588	$ 8,733,309	$ 516,784	$ 1,689,959
13	Percent Increase			41.81%	58.06%	51.10%	58.06%	34.84%	69.68%	-56.26%	7.87%
14	Multiple of System Increase			0.90	1.25	1.10	1.25	0.75	1.50	(1.21)	0.17
15	**Base Deficiency Allocation - Rate Year 2**										
16	Revenue at Current Rates	$ 533,404,884	-	$ 367,451,224	$ 125,457,111	$ 22,413,644	$ 8,804,976	$ 1,143,197	$ 5,087,802	$ 1,489,380	$ 1,557,550
17	Base Deficiency	$ 272,965,240									
18	Percent Increase Excluding Contracts & Sch. 88T	51.47%									
19	Targeted Percent Increase			46.32%	64.34%	56.61%	64.34%	38.60%	77.20%	0.00%	0.00%
20	Targeted Revenue Increase	$ 272,941,239	-	$ 170,208,196	$ 80,713,012	$ 12,689,468	$ 5,664,694	$ 441,286	$ 3,927,894	$ (972,596)	$ 269,285
21	Delta	$ 24,001									
22	Allocation of Delta	$ 24,001	-	$ 14,929	$ 7,079	$ 1,113	$ 497	$ 39	$ 345		
23	Targeted Revenue Increase Incl. Delta	$ 272,965,240	-	$ 170,223,125	$ 80,720,091	$ 12,690,581	$ 5,665,191	$ 441,325	$ 3,928,238	$ (972,596)	$ 269,285
24	Total Proposed Revenue	$ 806,370,124	-	$ 537,674,349	$ 206,177,202	$ 35,104,225	$ 14,470,166	$ 1,584,522	$ 9,016,040	$ 516,784	$ 1,826,835
25	Percent Increase			46.33%	64.34%	56.62%	64.34%	38.60%	77.21%	-65.30%	17.29%
26	Multiple of System Increase			0.90	1.25	1.10	1.25	0.75	1.50	(1.27)	0.34

Note 1: Contracts rate changes are governed by the contract between PSE and company
Note 2: PSE is proposing to set Schedule 88T rates to cost to serve indicated by cost of service study.