

**Exh. JL-4**  
**Docket UG-181053**  
**Witness: Jing Liu**

**BEFORE THE WASHINGTON  
UTILITIES AND TRANSPORTATION COMMISSION**

**WASHINGTON UTILITIES AND  
TRANSPORTATION COMMISSION,**

**Complainant,**

**v.**

**NORTHWEST NATURAL GAS  
COMPANY, d/b/a NW NATURAL,**

**Respondent.**

**DOCKET UG-181053**

**EXHIBIT TO TESTIMONY  
OF**

**Jing Liu**

**STAFF OF WASHINGTON UTILITIES AND  
TRANSPORTATION COMMISSION**

*NW Natural's Estimate on Incremental Cost and Revenue Associated  
with Serving Additional Customers*

**June 6, 2019**



**Rates & Regulatory Affairs**  
UG-181053  
2018 WA General Rate Revision  
**Data Request Response**

DR Request: May 21, 2019  
Date of Response: May 30, 2019  
Responder: Kyle T. Walker  
Telephone: (503) 226-4211 ext. 5858  
Email: kyle.walker@nwnatural.com  
Witness: Kyle Walker

**Request No.:** UG-181053 WUTC DR 201

Please identify the components of costs associated with serving additional customers.

**Response:**

The following components of costs are typically associated with serving additional customers:

- Capital Costs<sup>[1]</sup>
  - Main Extension
  - Service Line
  - Meter
  - Permit
  - Indirect Materials
- O&M Costs<sup>[1]</sup>
  - Meter Read
  - Billing
  - Payment Processing
  - Collections
- Other Costs
  - Property Tax
  - Public Utility Tax
  - Income Tax
  - WUTC Regulatory Fee
  - Depreciation

[1]Categories include wages/salaries



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Does the Company have any internal cost estimates for serving new residential or commercial customers, including capital expenditures and annualized expenses? If so, please provide the cost estimate and any relevant analyses. The cost estimate can include but is not limited to general budget guidelines, recent business case analyses associated with serving a particular new development, or cost information based on historical records. To the extent that the Company analyzed the future revenue associated with such new customers, please provide revenue projection, as well.

**Response:**

Please see "UG-181053 WUTC DR 202 Attachment 1.xlsx" for the Company's most up to date analysis related to new residential meter sets in Washington. This analysis focuses on the capital expenditures needed to add new residential customers onto our system. The final costs are net of customer contributions received. Our current internal analysis combines industrial and commercial new customers. Under the Company's initial filing and the Partial Multi-Party Settlement Agreement on Decoupling, industrial customers are not subject to Decoupling. Therefore, for the purpose of this data request relating to Decoupling, we have removed those figures from the analysis.

See "UG-181053 WUTC DR 202 Attachment 2.xlsx" for the cost of service for a new residential customer which includes the average capital investment from 2018 found in Attachment 1. The cost of service for a newly added residential customer in year one is \$518<sup>1</sup>.

Last, see "UG-181053 WUTC DR 202 Attachment 3.xlsx" for a per customer revenue projection for newly added customers. The revenue per year amounts to \$225.93 and \$411.55 for rate schedule 1 and 2, respectively, per newly added residential customer.

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<sup>1</sup> This analysis uses the capital structure and cost of capital from the all-party settlement in UG-181053

UG 181053 WUTC DR 202 Attachment 1

**Number of Meter Sets - Washington**

	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>
Total Residential Meter Sets (Washington Only)	1,803	1,527	1,869	2,141	2,485	2,658

**Number of Orders - Washington**

	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	
Washington SM01	MX SYSTEM EXPANSION[1]	67	90	118	128	160	177
Washington SM01	MX RESIDENTIAL MAIN	14	11	14	8	30	20
Washington SM02	NEW RESIDENTIAL SERVICE	1,252	1,296	1,527	1,885	2,181	2,355
Washington SM03	NEW RESIDENTIAL SERVICE	87	19	26	22	33	43
Washington SM02	CONVERSION RESIDENTIAL SERVICE	142	131	138	154	176	144
Washington SM03	CONVERSION RESIDENTIAL SERVICE	9	9	82	3	15	9
Total SM01		81	101	132	136	190	197
Total SM02		1,394	1,427	1,665	2,039	2,357	2,499
Total SM03		96	28	108	25	48	52
Addsets Meter Sets - (Total SM02+SM03)		313	72	96	77	80	107

**Total Cost of Service Line, Meter, Permit, Indirect Materials (Including Add Sets Only) - Washington**

	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	
Washington SM01	MX SYSTEM EXPANSION[1]	\$599,910	\$703,536	\$1,083,402	\$1,539,033	\$1,756,561	\$2,337,803
Washington SM01	MX RESIDENTIAL MAIN	\$116,522	\$163,181	\$228,429	\$209,634	\$638,111	\$1,203,996
Washington SM02	NEW RESIDENTIAL SERVICE	\$1,362,392	\$1,529,851	\$1,762,505	\$2,228,036	\$2,619,402	\$2,856,288
Washington SM03	NEW RESIDENTIAL SERVICE	\$171,610	\$35,237	\$40,046	\$28,623	\$66,046	\$70,364
Washington SM02	CONVERSION RESIDENTIAL SERVICE	\$373,446	\$353,405	\$398,991	\$390,985	\$513,658	\$535,323
Washington SM03	CONVERSION RESIDENTIAL SERVICE	\$25,813	\$19,312	\$139,681	\$7,216	\$40,081	\$53,041
Total SM01		\$716,432	\$866,717	\$1,311,831	\$1,748,667	\$2,394,672	\$3,541,799
Total SM02		\$1,735,838	\$1,883,256	\$2,161,496	\$2,619,021	\$3,133,060	\$3,391,611
Total SM03		\$197,424	\$54,549	\$179,727	\$35,839	\$106,128	\$123,405
Total Addset Costs		\$70,738	\$16,272	\$21,696	\$17,402	\$18,080	\$24,182

<b>Meter Add Set Costs</b>	\$226
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**Total Customer Contribution - Washington**

	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	
Washington SM01	MX SYSTEM EXPANSION[1]	\$0	\$0	\$0	\$0	\$0	
Washington SM01	MX RESIDENTIAL MAIN	\$0	\$0	\$0	\$0	\$0	
Washington SM02	NEW RESIDENTIAL SERVICE	\$1,343	\$9,696	\$7,228	\$16,259	\$14,037	\$25,212
Washington SM03	NEW RESIDENTIAL SERVICE	\$11,492	\$1,355	\$1,380	\$0	\$5,378	\$21,049
Washington SM02	CONVERSION RESIDENTIAL SERVICE	\$51,558	\$51,241	\$78,904	\$93,007	\$110,961	\$130,051
Washington SM03	CONVERSION RESIDENTIAL SERVICE	\$16,192	\$4,061	\$5,042	\$2,434	\$2,830	\$0
Total SM01		\$0	\$0	\$0	\$0	\$0	\$0
Total SM02		\$52,901	\$60,937	\$86,132	\$109,266	\$124,998	\$155,263
Total SM03		\$27,684	\$5,416	\$6,422	\$2,434	\$8,208	\$21,049

UG 181053 WUTC DR 202 Attachment 1

**Total Cost Net of Contribution - Washington**

		<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>
Washington SM01	MX SYSTEM EXPANSION[1]	\$599,910	\$703,536	\$1,083,402	\$1,539,033	\$1,756,561	\$2,337,803
Washington SM01	MX RESIDENTIAL MAIN	\$116,522	\$163,181	\$228,429	\$209,634	\$638,111	\$1,203,996
Washington SM02	NEW RESIDENTIAL SERVICE	\$1,361,049	\$1,520,155	\$1,755,277	\$2,211,777	\$2,605,365	\$2,831,076
Washington SM03	NEW RESIDENTIAL SERVICE	\$160,118	\$33,882	\$38,666	\$28,623	\$60,668	\$49,315
Washington SM02	CONVERSION RESIDENTIAL SERVICE	\$321,888	\$302,164	\$320,087	\$297,978	\$402,697	\$405,272
Washington SM03	CONVERSION RESIDENTIAL SERVICE	\$9,621	\$15,251	\$134,639	\$4,782	\$37,251	\$53,041
<b>Total SM01</b>		<b>\$716,432</b>	<b>\$866,717</b>	<b>\$1,311,831</b>	<b>\$1,748,667</b>	<b>\$2,394,672</b>	<b>\$3,541,799</b>
<b>Total SM02</b>		<b>\$1,682,937</b>	<b>\$1,822,319</b>	<b>\$2,075,364</b>	<b>\$2,509,755</b>	<b>\$3,008,062</b>	<b>\$3,236,348</b>
<b>Total SM03</b>		<b>\$169,740</b>	<b>\$49,133</b>	<b>\$173,305</b>	<b>\$33,405</b>	<b>\$97,920</b>	<b>\$102,356</b>
<b>Total</b>		<b>\$2,569,108</b>	<b>\$2,738,169</b>	<b>\$3,560,501</b>	<b>\$4,291,826</b>	<b>\$5,500,653</b>	<b>\$6,880,502</b>
<b>Addsets</b>		<b>\$70,738</b>	<b>\$16,272</b>	<b>\$21,696</b>	<b>\$17,402</b>	<b>\$18,080</b>	<b>\$24,182</b>
<b>Total Costs (Washington)</b>		<b>\$2,639,846</b>	<b>\$2,754,441</b>	<b>\$3,582,197</b>	<b>\$4,309,228</b>	<b>\$5,518,733</b>	<b>\$6,904,684</b>
<b>Total Meter Sets - Washington</b>		<b>1,803</b>	<b>1,527</b>	<b>1,869</b>	<b>2,141</b>	<b>2,485</b>	<b>2,658</b>
<b>Total Construction Cost/Customer</b>		<b>\$1,464</b>	<b>\$1,804</b>	<b>\$1,917</b>	<b>\$2,013</b>	<b>\$2,221</b>	<b>\$2,598</b>
<b>Overhead Rate Est.</b>		<b>38%</b>	<b>38%</b>	<b>38%</b>	<b>38%</b>	<b>38%</b>	<b>38%</b>
<b>Total Cost per New Meter Set</b>		<b>\$2,021</b>	<b>\$2,489</b>	<b>\$2,645</b>	<b>\$2,778</b>	<b>\$3,065</b>	<b>\$3,585</b>

[1] May include counts and costs from commercial or industrial new meter sets





**UG-181053 WUTC DR 202 Attachment 3**  
**New Residential Customer Revenue per Settlement in UG 181053**

	<u>RS 1</u>	<u>RS 2</u>
Monthly Charge	\$5.50	\$8.00
Base Rate	\$0.69687	\$0.46520
Annual UPC	229.5	678.3
<b>Total Annual Marg</b>	<b>\$225.93</b>	<b>\$411.55</b>