WUTC DOCKET: UG-181053 EXHIBIT: KTW-7 ADMIT ☑ W/D ☐ REJECT ☐

Exhibit No. KTW-7 Docket UG-181053 Witness: Kyle T. Walker

# BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION Complainant,

**DOCKET UG-181053** 

v.

NORTHWEST NATURAL GAS COMPANY,

Respondent.

# NORTHWEST NATURAL GAS COMPANY EXHIBIT OF KYLE T. WALKER

**NW Natural's Response to Data Request 202** 

July 18, 2019



DR Request: May 21, 2019

Date of Amended Response: July 12, 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 202

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 - Amended.xlsx" for the Company's most up to date analysis related to new residential meter sets in Washington. We have been able to isolate the residential data and remove commercial capital costs for a more precise estimate. 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 - Amended.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 \$5081.

Last, see previously submitted "UG-181053 WUTC DR 202 Attachment 3.xlsx" for a per customer revenue projection for newly added customers. The revenue per year

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

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amounts to \$225.93 and \$411.55 for rate schedule 1 and 2, respectively, per newly added residential customer.

	er Sets - Washington						
	Total Residential Meter Sets (Washington Only)	2013 1,809	2014 1,527	2015 1,869	2016 2,141	2017 2,487	2018 2,660
lumber of Ord	ers - Washington						
		2013	2014	2015	2016	2017	2018
Vashington SM01	MX SYSTEM EXPANSION	62	84	110	116	156	159
Vashington SM01	MX RESIDENTIAL MAIN	14	11	14	8	30	20
Vashington SM02	NEW RESIDENTIAL SERVICE	1,252	1,296	1,527	1,885	2,181	2,355
Vashington SM03	NEW RESIDENTIAL SERVICE	87	19	26	22	33	43
Vashington SM02	CONVERSION RESIDENTIAL SERVICE	142	131	138	154	176	144
Vashington SM03	CONVERSION RESIDENTIAL SERVICE	9	9	82	3	15	9
	Total SM01	76	95	124	124	186	179
	Total SM02	1,394	1,427	1,665	2,039	2,357	2,499
	Total SM03	96	28	108	2,033	48	52
	Addsets Meter Sets - (Total SM02+SM03)	319	72	96	77	82	109
otal Cost of Se	rvice Line, Meter, Permit, Indirect Mat	, ,	••	•	2016	2017	2018
	, , ,	2013	2014	2015	<u>2016</u>	<u>2017</u>	2018
Vashington SM01	MX SYSTEM EXPANSION	2013 \$563,396	2014 \$664,396	2015 \$1,024,378	\$1,463,417	\$1,728,780	\$2,191,880
Vashington SM01 Vashington SM01	MX SYSTEM EXPANSION MX RESIDENTIAL MAIN	2013 \$563,396 \$116,522	2014 \$664,396 \$163,181	2015 \$1,024,378 \$228,429	\$1,463,417 \$209,634	\$1,728,780 \$638,111	\$2,191,880 \$1,203,996
Vashington SM01 Vashington SM01 Vashington SM02	MX SYSTEM EXPANSION MX RESIDENTIAL MAIN NEW RESIDENTIAL SERVICE	2013 \$563,396 \$116,522 \$1,362,392	2014 \$664,396 \$163,181 \$1,529,851	2015 \$1,024,378 \$228,429 \$1,762,505	\$1,463,417 \$209,634 \$2,228,036	\$1,728,780 \$638,111 \$2,619,402	\$2,191,880 \$1,203,996 \$2,856,288
Vashington SM01 Vashington SM01 Vashington SM02 Vashington SM03	MX SYSTEM EXPANSION MX RESIDENTIAL MAIN NEW RESIDENTIAL SERVICE NEW RESIDENTIAL SERVICE	2013 \$563,396 \$116,522 \$1,362,392 \$171,610	2014 \$664,396 \$163,181 \$1,529,851 \$35,237	2015 \$1,024,378 \$228,429 \$1,762,505 \$40,046	\$1,463,417 \$209,634 \$2,228,036 \$28,623	\$1,728,780 \$638,111 \$2,619,402 \$66,046	\$2,191,880 \$1,203,996 \$2,856,288 \$70,364
Vashington SM01 Vashington SM01 Vashington SM02 Vashington SM03 Vashington SM02	MX SYSTEM EXPANSION MX RESIDENTIAL MAIN NEW RESIDENTIAL SERVICE NEW RESIDENTIAL SERVICE CONVERSION RESIDENTIAL SERVICE	2013 \$563,396 \$116,522 \$1,362,392 \$171,610 \$373,446	2014 \$664,396 \$163,181 \$1,529,851 \$35,237 \$353,405	2015 \$1,024,378 \$228,429 \$1,762,505 \$40,046 \$398,991	\$1,463,417 \$209,634 \$2,228,036 \$28,623 \$390,985	\$1,728,780 \$638,111 \$2,619,402 \$66,046 \$513,658	\$2,191,880 \$1,203,996 \$2,856,288 \$70,364 \$535,323
Vashington SM01 Vashington SM01 Vashington SM02 Vashington SM03 Vashington SM02	MX SYSTEM EXPANSION MX RESIDENTIAL MAIN NEW RESIDENTIAL SERVICE NEW RESIDENTIAL SERVICE CONVERSION RESIDENTIAL SERVICE CONVERSION RESIDENTIAL SERVICE	2013 \$563,396 \$116,522 \$1,362,392 \$171,610 \$373,446 \$25,813	2014 \$664,396 \$163,181 \$1,529,851 \$35,237 \$353,405 \$19,312	2015 \$1,024,378 \$228,429 \$1,762,505 \$40,046 \$398,991 \$139,681	\$1,463,417 \$209,634 \$2,228,036 \$28,623 \$390,985 \$7,216	\$1,728,780 \$638,111 \$2,619,402 \$66,046 \$513,658 \$40,081	\$2,191,880 \$1,203,996 \$2,856,288 \$70,364 \$535,323 \$53,041
Vashington SM01 Vashington SM01 Vashington SM02 Vashington SM03 Vashington SM02	MX SYSTEM EXPANSION MX RESIDENTIAL MAIN NEW RESIDENTIAL SERVICE NEW RESIDENTIAL SERVICE CONVERSION RESIDENTIAL SERVICE CONVERSION RESIDENTIAL SERVICE TOAL SMOIL	2013 \$563,396 \$116,522 \$1,362,392 \$171,610 \$373,446 \$25,813 \$679,918	2014 \$664,396 \$163,181 \$1,529,851 \$35,237 \$353,405 \$19,312 \$827,577	2015 \$1,024,378 \$228,429 \$1,762,505 \$40,046 \$398,991 \$139,681 \$1,252,807	\$1,463,417 \$209,634 \$2,228,036 \$28,623 \$390,985 \$7,216 \$1,673,051	\$1,728,780 \$638,111 \$2,619,402 \$66,046 \$513,658 \$40,081 \$2,366,891	\$2,191,880 \$1,203,996 \$2,856,288 \$70,364 \$535,323 \$53,041 \$3,395,876
Vashington SM01 Vashington SM01 Vashington SM02 Vashington SM03 Vashington SM02	MX SYSTEM EXPANSION MX RESIDENTIAL MAIN NEW RESIDENTIAL SERVICE NEW RESIDENTIAL SERVICE CONVERSION RESIDENTIAL SERVICE CONVERSION RESIDENTIAL SERVICE Total SM01 Total SM01	2013 \$563,396 \$116,522 \$1,362,392 \$171,610 \$373,446 \$25,813 \$679,918 \$1,735,838	2014 \$664,396 \$163,181 \$1,529,851 \$35,237 \$353,405 \$19,312 \$827,577 \$1,883,256	2015 \$1,024,378 \$228,429 \$1,762,505 \$40,046 \$398,991 \$139,681 \$1,252,807 \$2,161,496	\$1,463,417 \$209,634 \$2,228,036 \$28,623 \$390,985 \$7,216 \$1,673,051 \$2,619,021	\$1,728,780 \$638,111 \$2,619,402 \$66,046 \$513,658 \$40,081 \$2,366,891 \$3,133,060	\$2,191,880 \$1,203,996 \$2,856,288 \$70,364 \$535,323 \$53,041 \$3,395,876 \$3,391,611
Vashington SM01 Vashington SM01 Vashington SM02 Vashington SM03 Vashington SM02	MX SYSTEM EXPANSION MX RESIDENTIAL MAIN NEW RESIDENTIAL SERVICE NEW RESIDENTIAL SERVICE CONVERSION RESIDENTIAL SERVICE CONVERSION RESIDENTIAL SERVICE Total SM01 Total SM02 Total SM03	2013 \$563,396 \$116,522 \$1,362,392 \$171,610 \$373,446 \$25,813 \$679,918 \$1,735,838 \$197,424	2014 \$664,396 \$163,181 \$1,529,851 \$35,237 \$353,405 \$19,312 \$827,577 \$1,883,256 \$54,549	2015 \$1,024,378 \$128,429 \$1,762,505 \$40,046 \$398,991 \$139,681 \$1,252,807 \$2,161,496 \$179,727	\$1,463,417 \$209,634 \$2,228,036 \$28,623 \$390,985 \$7,216 \$1,673,051 \$2,619,021 \$35,839	\$1,728,780 \$638,111 \$2,619,402 \$66,046 \$513,658 \$40,081 \$2,366,891 \$3,133,060 \$106,128	\$2,191,880 \$1,203,996 \$2,856,288 \$70,364 \$535,323 \$53,041 \$3,395,876 \$3,391,611 \$123,405
Washington SM01 Washington SM01 Washington SM02 Washington SM03 Washington SM02 Washington SM03	MX SYSTEM EXPANSION MX RESIDENTIAL MAIN NEW RESIDENTIAL SERVICE NEW RESIDENTIAL SERVICE CONVERSION RESIDENTIAL SERVICE CONVERSION RESIDENTIAL SERVICE TOAL SMOI Total SMO2 Total SMO3 Total Addset Costs	2013 \$563,396 \$116,522 \$1,362,392 \$171,610 \$373,446 \$25,813 \$679,918 \$1,735,838	2014 \$664,396 \$163,181 \$1,529,851 \$35,237 \$353,405 \$19,312 \$827,577 \$1,883,256	2015 \$1,024,378 \$228,429 \$1,762,505 \$40,046 \$398,991 \$139,681 \$1,252,807 \$2,161,496	\$1,463,417 \$209,634 \$2,228,036 \$28,623 \$390,985 \$7,216 \$1,673,051 \$2,619,021	\$1,728,780 \$638,111 \$2,619,402 \$66,046 \$513,658 \$40,081 \$2,366,891 \$3,133,060	\$2,191,880 \$1,203,996 \$2,856,288 \$70,364 \$535,323 \$53,041 \$3,395,876 \$3,391,611
Washington SM01 Washington SM01 Washington SM02 Washington SM03 Washington SM02 Washington SM03	MX SYSTEM EXPANSION MX RESIDENTIAL MAIN NEW RESIDENTIAL SERVICE NEW RESIDENTIAL SERVICE CONVERSION RESIDENTIAL SERVICE CONVERSION RESIDENTIAL SERVICE Total SM01 Total SM02 Total SM03	2013 \$563,396 \$116,522 \$1,362,392 \$171,610 \$373,446 \$25,813 \$679,918 \$1,735,838 \$197,424	2014 \$664,396 \$163,181 \$1,529,851 \$35,237 \$353,405 \$19,312 \$827,577 \$1,883,256 \$54,549	2015 \$1,024,378 \$128,429 \$1,762,505 \$40,046 \$398,991 \$139,681 \$1,252,807 \$2,161,496 \$179,727	\$1,463,417 \$209,634 \$2,228,036 \$28,623 \$390,985 \$7,216 \$1,673,051 \$2,619,021 \$35,839	\$1,728,780 \$638,111 \$2,619,402 \$66,046 \$513,658 \$40,081 \$2,366,891 \$3,133,060 \$106,128	\$2,191,880 \$1,203,996 \$2,856,288 \$70,364 \$535,323 \$53,041 \$3,395,876 \$3,391,611 \$123,405
Washington SM01 Washington SM01 Washington SM02 Washington SM03 Washington SM03 Washington SM03 Washington SM03	MX SYSTEM EXPANSION MX RESIDENTIAL MAIN NEW RESIDENTIAL SERVICE NEW RESIDENTIAL SERVICE CONVERSION RESIDENTIAL SERVICE CONVERSION RESIDENTIAL SERVICE TOTAL SMOI TOTAL SMOI TOTAL SMOI TOTAL AGAIN TOTAL TOTAL AGAIN TOTAL TOTAL AGAIN TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOT	2013 \$563,396 \$116,522 \$1,362,392 \$171,610 \$373,446 \$25,813 \$679,918 \$1,735,838 \$197,424 \$77,094	2014 \$664,396 \$163,181 \$15,729,851 \$35,237 \$353,405 \$19,312 \$827,577 \$1,883,256 \$54,549 \$16,272	2015 \$1,024,378 \$228,429 \$1,762,505 \$40,046 \$398,991 \$139,681 \$1,252,807 \$2,161,496 \$179,727 \$21,696	\$1,463,417 \$2,09,634 \$2,228,036 \$28,623 \$390,985 \$7,216 \$1,673,051 \$2,619,021 \$35,839 \$17,402	\$1,728,780 \$638,111 \$2,619,402 \$66,046 \$513,658 \$40,081 \$2,366,891 \$3,133,060 \$106,128 \$18,532	\$2,191,880 \$1,203,996 \$2,856,288 \$70,364 \$535,323 \$53,041 \$3,395,876 \$3,391,61 \$123,405 \$24,634
Vashington SM01 Vashington SM01 Vashington SM02 Vashington SM02 Vashington SM03	MX SYSTEM EXPANSION MX RESIDENTIAL MAIN NEW RESIDENTIAL SERVICE NEW RESIDENTIAL SERVICE CONVERSION RESIDENTIAL SERVICE CONVERSION RESIDENTIAL SERVICE TOALS MOD Total SMOD Total SMOD Total Addset Costs  Contribution - Washington  MX SYSTEM EXPANSION	2013 \$563,396 \$116,522 \$1,362,392 \$171,610 \$373,446 \$25,813 \$477,918 \$1,735,838 \$1397,424 \$72,094	2014 \$664,396 \$163,181 \$1,579,851 \$35,237 \$353,405 \$19,312 \$27,577 \$1,883,256 \$54,549 \$16,272	2015 \$1,024,378 \$228,429 \$1,762,505 \$40,046 \$398,991 \$139,681 \$1,252,807 \$2,161,496 \$179,727 \$21,696	\$1,463,417 \$200,634 \$2,228,036 \$28,623 \$390,985 \$7,216 \$1,673,051 \$2,619,021 \$35,839 \$17,402	\$1,728,780 \$638,111 \$2,619,402 \$66,046 \$513,658 \$40,061 \$2,366,891 \$3,133,060 \$106,128 \$18,532	\$2,191,880 \$1,203,996 \$2,856,288 \$70,364 \$335,323 \$53,041 \$3,395,876 \$3,391,611 \$123,405 \$24,634
Vashington SM01 Vashington SM01 Vashington SM02 Vashington SM03 Vashington SM03 Vashington SM03 Vashington SM03 Vashington SM01 Vashington SM01 Vashington SM01	MX SYSTEM EXPANSION MX RESIDENTIAL MAIN NEW RESIDENTIAL SERVICE NEW RESIDENTIAL SERVICE CONVERSION RESIDENTIAL SERVICE CONVERSION RESIDENTIAL SERVICE TOAL SMOI Total SMO2 Total SMO3 Total Addset Costs  Contribution - Washington  MX SYSTEM EXPANSION MX RESIDENTIAL MAIN	2013 \$563,396 \$116,522 \$1,362,392 \$171,610 \$373,446 \$25,813 \$679,918 \$1,735,838 \$197,424 \$72,094	2014 \$664,396 \$163,181 \$1,529,851 \$35,237 \$353,405 \$19,312 \$27,577 \$1,883,256 \$54,549 \$16,272	2015 \$1,024,378 \$228,429 \$1,762,505 \$40,046 \$398,991 \$139,681 \$1,252,807 \$2,161,496 \$179,727 \$21,696	\$1,463,417 \$2,09,634 \$2,228,036 \$28,623 \$390,985 \$7,216 \$1,673,051 \$2,619,021 \$35,839 \$17,402	\$1,728,780 \$638,111 \$2,619,402 \$66,046 \$513,658 \$40,081 \$2,366,891 \$3,133,060 \$106,128 \$18,532	\$2,191,880 \$1,203,996 \$2,856,288 \$70,364 \$335,323 \$53,041 \$3,395,876 \$3,391,611 \$123,405 \$24,634
Vashington SM01 Zashington SM01 Zashington SM02 Zashington SM02 Zashington SM03 Zashington SM03 Zashington SM03 Zashington SM03 Zashington SM01 Zashington SM01 Zashington SM01 Zashington SM01 Zashington SM01	MX SYSTEM EXPANSION MX RESIDENTIAL MAIN NEW RESIDENTIAL SERVICE NEW RESIDENTIAL SERVICE CONVERSION RESIDENTIAL SERVICE CONVERSION RESIDENTIAL SERVICE TOALS MOD TOAL SMOD Total SMOD Total SMOD Total MOD TOTAL SMOD TOTAL SERVICE  CONTRIBUTION - Washington MX RESIDENTIAL MAIN NEW RESIDENTIAL SERVICE	2013 \$563,396 \$116,522 \$1,862,392 \$171,610 \$373,446 \$25,813 \$477,7244 \$72,094 2013 \$0 \$0 \$0 \$1,343	2014 \$664,396 \$163,181 \$1,579,851 \$35,237 \$353,405 \$19,312 \$827,777 \$1,883,256 \$545,499 \$16,272	2015 \$1,024,378 \$228,429 \$1,762,505 \$40,046 \$398,991 \$139,681 \$1,252,807 \$2,161,496 \$179,727 \$21,696	\$1,463,417 \$200,634 \$2,228,036 \$28,623 \$390,985 \$7,216 \$1,673,051 \$2,619,021 \$35,839 \$17,402 \$2016 \$0 \$0 \$16,259	\$1,728,780 \$638,111 \$2,619,402 \$66,046 \$513,658 \$40,081 \$2,366,891 \$3,133,060 \$106,128 \$18,532 \$2,000 \$100,128 \$18,532	\$2,191,880 \$2,285,6288 \$70,364 \$335,323 \$53,041 \$3,395,876 \$3,391,611 \$123,405 \$24,634
Vashington SM01 Vashington SM01 Vashington SM02 Vashington SM03 Vashington SM03 Vashington SM03 Vashington SM03 Vashington SM03 Vashington SM01 Vashington SM01 Vashington SM01 Vashington SM01 Vashington SM01 Vashington SM03	MX SYSTEM EXPANSION MX RESIDENTIAL MAIN NEW RESIDENTIAL SERVICE NEW RESIDENTIAL SERVICE CONVERSION RESIDENTIAL SERVICE TOAL SMOI Toal SMO2 Total SMO2 Total Addset Costs  Contribution - Washington  MX SYSTEM EXPANSION MX RESIDENTIAL MAIN NEW RESIDENTIAL MAIN NEW RESIDENTIAL MAIN NEW RESIDENTIAL SERVICE NEW RESIDENTIAL SERVICE NEW RESIDENTIAL SERVICE	2013 \$563,396 \$116,522 \$1,362,392 \$171,610 \$373,446 \$25,813 \$679,918 \$1,735,838 \$197,424 \$72,094 2013 \$0 \$0 \$1,343 \$11,492	2014 \$664,396 \$163,181 \$1,529,851 \$35,237 \$353,405 \$19,312 \$827,777 \$1,883,256 \$45,549 \$16,272	2015 \$1,024,378 \$228,429 \$1,762,505 \$40,046 \$398,991 \$139,681 \$1,252,807 \$2,161,496 \$179,727 \$21,696	\$1,463,417 \$209,634 \$2,228,036 \$28,623 \$390,985 \$7,216 \$1,673,051 \$2,619,021 \$35,839 \$17,402 \$2016 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	\$1,728,780 \$638,111 \$2,619,402 \$66,046 \$513,658 \$40,081 \$2,366,891 \$3,133,060 \$106,128 \$18,532 \$0 \$0 \$0 \$0 \$1,4,037 \$5,378	\$2,191,880 \$1,203,965 \$2,856,288 \$70,364 \$335,323 \$53,041 \$3,395,65 \$3,391,611 \$123,405 \$24,634 \$0 \$0 \$0 \$2,122 \$2,122 \$21,049
rashington SM01 rashington SM01 rashington SM02 rashington SM03 rashington SM03 rashington SM03 rashington SM03 rashington SM03 rashington SM01 rashington SM01 rashington SM01 rashington SM01 rashington SM02 rashington SM02 rashington SM03	MX SYSTEM EXPANSION MX RESIDENTIAL MAIN NEW RESIDENTIAL SERVICE NEW RESIDENTIAL SERVICE CONVERSION RESIDENTIAL SERVICE TOTAL SMO1 TOTAL SMO2 TOTAL SMO2 TOTAL SMO3 TOTAL Addset Costs  COntribution - Washington  MX SYSTEM EXPANSION MX RESIDENTIAL MAIN NEW RESIDENTIAL SERVICE NEW RESIDENTIAL SERVICE NOW RESIDENTIAL SERVICE CONVERSION RESIDENTIAL SERVICE	2013 \$563,396 \$116,522 \$1,362,392 \$171,610 \$373,446 \$25,813 \$679,918 \$1,735,838 \$1,735,838 \$197,424 \$72,094 2013 \$0 \$0 \$1,343 \$11,492 \$51,558	2014 \$664,396 \$163,181 \$15,29,851 \$35,237 \$353,405 \$19,312 \$827,577 \$1,883,256 \$54,549 \$16,272 2014 \$0 \$0 \$0 \$9,696 \$1,355 \$51,241	2015 \$1,024,378 \$228,429 \$1,762,505 \$40,046 \$398,991 \$139,681 \$1,252,807 \$2,161,496 \$179,727 \$21,696	\$1,463,417 \$209,634 \$2,228,036 \$28,623 \$390,985 \$7,216 \$1,673,051 \$2,619,021 \$35,839 \$17,402 \$0 \$0 \$0 \$0 \$0 \$33,007	\$1,728,780 \$638,111 \$2,619,402 \$66,046 \$513,658 \$40,081 \$2,366,891 \$3,133,060 \$106,128 \$18,532 \$0 \$0 \$0 \$1,037 \$5,378 \$110,961	\$2,191,880 \$1,203,996 \$1,203,996 \$70,364 \$335,323 \$33,91,611 \$123,405 \$24,634 \$0 \$0 \$0 \$22,212 \$21,049 \$130,051
Vashington SM01 Vashington SM01 Vashington SM02 Vashington SM03 Vashington SM03 Vashington SM03 Vashington SM03 Vashington SM03 Vashington SM01 Vashington SM01 Vashington SM01 Vashington SM01 Vashington SM02 Vashington SM03	MX SYSTEM EXPANSION MX RESIDENTIAL MAIN NEW RESIDENTIAL SERVICE NEW RESIDENTIAL SERVICE CONVERSION RESIDENTIAL SERVICE TOAL SMOI Toal SMO2 Total SMO2 Total Addset Costs  Contribution - Washington  MX SYSTEM EXPANSION MX RESIDENTIAL MAIN NEW RESIDENTIAL MAIN NEW RESIDENTIAL SERVICE CONVERSION RESIDENTIAL SERVICE CONVERSION RESIDENTIAL SERVICE CONVERSION RESIDENTIAL SERVICE CONVERSION RESIDENTIAL SERVICE	2013 \$563,396 \$116,522 \$1,362,392 \$171,610 \$373,446 \$25,813 \$679,918 \$1,735,838 \$1,735,838 \$197,424 \$72,094 2013 \$0 \$0 \$1,343 \$11,492 \$51,558 \$16,192	2014 \$664,396 \$163,181 \$1,579,851 \$35,237 \$353,405 \$19,312 \$827,777 \$1,883,256 \$44,549 \$16,272 2014 \$0 \$0 \$0 \$9,696 \$1,355 \$51,241 \$4,061	2015 \$1,024,378 \$228,429 \$1,762,505 \$40,046 \$398,991 \$139,681 \$1,252,807 \$2,161,496 \$179,727 \$21,696	\$1,463,417 \$209,634 \$2,228,036 \$28,623 \$390,985 \$7,216 \$1,673,051 \$2,619,021 \$35,839 \$17,402 \$0 \$0 \$0 \$0 \$16,259 \$0 \$9,30,07 \$2,434	\$1,728,780 \$638,111 \$2,619,402 \$66,046 \$513,658 \$40,081 \$2,366,891 \$3,133,060 \$106,128 \$18,532 \$2,50 \$0 \$0 \$1,50 \$1,53 \$1,03 \$	\$2,191,890 \$1,203,995 \$2,856,288 \$70,364 \$335,323 \$53,041 \$3,395,876 \$3,391,611 \$123,405 \$24,634 \$0 \$0 \$0 \$0 \$25,212 \$21,049 \$130,051 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0
Vashington SM01 Vashington SM01 Vashington SM01 Vashington SM03 Vashington SM03 Vashington SM03 Vashington SM03 Vashington SM03 Vashington SM01 Vashington SM01 Vashington SM01 Vashington SM01 Vashington SM02 Vashington SM02 Vashington SM03	MX SYSTEM EXPANSION MX RESIDENTIAL MAIN NEW RESIDENTIAL SERVICE NEW RESIDENTIAL SERVICE CONVERSION RESIDENTIAL SERVICE TOTAL SMO1 TOTAL SMO2 TOTAL SMO2 TOTAL SMO2 TOTAL SMO3 TOTAL Addset Costs  COntribution - Washington  MX SYSTEM EXPANSION MX RESIDENTIAL MAIN NEW RESIDENTIAL SERVICE CONVERSION RESIDENTIAL SERVICE CONVERSION RESIDENTIAL SERVICE CONVERSION RESIDENTIAL SERVICE CONVERSION RESIDENTIAL SERVICE TOTAL SMO1 TOTAL SERVICE TO	2013 \$563,396 \$116,522 \$1,362,392 \$171,610 \$373,446 \$25,813 \$679,918 \$1,735,838 \$197,424 \$72,094 2013 \$0 \$0 \$1,143 \$1,149 \$1,149 \$1,149 \$1,149 \$1,149 \$1,149 \$1,149 \$1,149 \$1,149 \$1,158 \$1,149 \$1,158 \$1,149 \$1,158 \$1,149 \$1,158 \$1,149 \$1,158 \$1,149 \$1,158 \$1,149 \$1,158 \$1,149 \$1,158 \$1,149 \$1,158 \$1,149 \$1,158 \$1,149 \$1,158 \$1,149 \$1,158 \$1,149 \$1,158 \$1,149 \$1,158 \$1,158 \$1,149 \$1,158 \$1,158 \$1,149 \$1,158 \$1,149 \$1,149 \$1,158 \$1,158 \$1,158 \$1,158 \$1,149 \$1,158 \$1,1	2014 \$664,396 \$163,181 \$15,29,851 \$35,237 \$353,405 \$19,312 \$27,577 \$1,883,256 \$54,549 \$16,272 2014 \$0 \$0 \$9,696 \$1,355 \$51,241 \$4,061 \$0	2015 \$1,024,378 \$228,429 \$1,762,505 \$40,046 \$398,991 \$139,681 \$1,252,807 \$2,161,496 \$179,727 \$21,696 \$0 \$0 \$0 \$0 \$7,228 \$1,380 \$7,228 \$1,380 \$7,228 \$1,380 \$7,228 \$1,380 \$7,228 \$1,380 \$7,228 \$1,380 \$7,228 \$1,380 \$7,280 \$1,380 \$	\$1,463,417 \$2,09,634 \$2,228,036 \$28,623 \$390,985 \$7,216 \$1,673,051 \$2,619,021 \$35,839 \$17,402 \$0 \$0 \$0 \$0 \$16,259 \$0 \$0 \$33,007 \$2,434 \$50 \$0	\$1,728,780 \$638,111 \$2,619,402 \$66,046 \$513,658 \$40,081 \$2,366,891 \$3,133,060 \$106,128 \$18,532 \$0 \$0 \$0 \$1,037 \$0 \$1,037 \$1,037 \$1,0961 \$2,3830 \$0 \$0 \$1,0961	\$2,191,890 \$1,203,995 \$2,856,288 \$70,364 \$335,323 \$3395,876 \$3,391,611 \$123,005 \$24,634 \$0 \$0 \$0 \$22,212 \$21,049 \$130,051 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0
Washington SM01 Washington SM01 Washington SM02 Washington SM03 Washington SM02 Washington SM03	MX SYSTEM EXPANSION MX RESIDENTIAL MAIN NEW RESIDENTIAL SERVICE NEW RESIDENTIAL SERVICE CONVERSION RESIDENTIAL SERVICE TOAL SMOI Toal SMO2 Total SMO2 Total Addset Costs  Contribution - Washington  MX SYSTEM EXPANSION MX RESIDENTIAL MAIN NEW RESIDENTIAL MAIN NEW RESIDENTIAL SERVICE CONVERSION RESIDENTIAL SERVICE CONVERSION RESIDENTIAL SERVICE CONVERSION RESIDENTIAL SERVICE CONVERSION RESIDENTIAL SERVICE	2013 \$563,396 \$116,522 \$1,362,392 \$171,610 \$373,446 \$25,813 \$679,918 \$1,735,838 \$1,735,838 \$197,424 \$72,094 2013 \$0 \$0 \$1,343 \$11,492 \$51,558 \$16,192	2014 \$664,396 \$163,181 \$1,579,851 \$35,237 \$353,405 \$19,312 \$827,777 \$1,883,256 \$44,549 \$16,272 2014 \$0 \$0 \$0 \$9,696 \$1,355 \$51,241 \$4,061	2015 \$1,024,378 \$228,429 \$1,762,505 \$40,046 \$398,991 \$139,681 \$1,252,807 \$2,161,496 \$179,727 \$21,696	\$1,463,417 \$209,634 \$2,228,036 \$28,623 \$390,985 \$7,216 \$1,673,051 \$2,619,021 \$35,839 \$17,402 \$0 \$0 \$0 \$0 \$16,259 \$0 \$9,30,07 \$2,434	\$1,728,780 \$638,111 \$2,619,402 \$66,046 \$513,658 \$40,081 \$2,366,891 \$3,133,060 \$106,128 \$18,532 \$2,50 \$0 \$0 \$1,50 \$1,53 \$1,03 \$	\$2,191,890 \$1,203,995 \$2,856,288 \$70,364 \$335,323 \$53,041 \$3,395,876 \$3,391,611 \$123,405 \$24,634 \$0 \$0 \$0 \$0 \$25,212 \$21,049 \$130,051 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0

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<b>Total Cost</b>	Net of	Contribution	_	Washington

		2013	2014	2015	2016	2017	2018
Washington SM01	MX SYSTEM EXPANSION	\$563,396	\$664,396	\$1,024,378	\$1,463,417	\$1,728,780	\$2,191,880
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
	Total SM01	\$679,918	\$827,577	\$1,252,807	\$1,673,051	\$2,366,891	\$3,395,876
	Total SM02	\$1,682,937	\$1,822,319	\$2,075,364	\$2,509,755	\$3,008,062	\$3,236,348
	Total SM03	\$169,740	\$49,133	\$173,305	\$33,405	\$97,920	\$102,356
	Total	\$2,532,595	\$2,699,029	\$3,501,477	\$4,216,211	\$5,472,873	\$6,734,579
	Addsets	\$72,094	\$16,272	\$21,696	\$17,402	\$18,532	\$24,634
	Total Costs (Washington)	\$2,604,689	\$2,715,301	\$3,523,173	\$4,233,613	\$5,491,405	\$6,759,213
	Total Meter Sets - Washington	1,809	1,527	1,869	2,141	2,487	2,660
	Total Construction Cost/Customer	\$1,440	\$1,778	\$1,885	\$1,977	\$2,208	\$2,541
	Overhead Rate Est.	38%	38%	38%	38%	38%	38%
	Total Cost per New Meter Set	\$1.987	\$2,454	\$2,601	\$2,729	\$3.047	\$3.507

NW Natural Determination of Cost of Service

Input Capital Costs and Rates			
Ocat of Ocaltal	0/ of Oswital	04	Weighted
Cost of Capital	% of Capital	Cost	Cost
Debt	50.00%	5.066%	2.533%
Short Term Debt	1.00%	2.186%	0.022%
Common Equity	49.00%	9.400%	4.606%
	100.00%	_	7.161%
		_	
State Tax Rate			0.00%
Federal Tax Rate			21.00%
Revenue Sensitive Rate (held to from	anchise rate/reg com fee)		4.05%
Depreciation Rate			2.60%
Property Tax Rate			1.50%
Incremental O&M			\$ 54.05
Inflation Rate			2.50%
Bonus Tax Depreciation toggled (	1 = yes, 2 = no)		2
Investment			\$ 3,507

	_	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
	<b>5</b>										
1	Depreciation	91	91	91	91	91	91	91	91	91	91
2	O&M	54	55	57	58	60	61	63	64	66	68
3	Property Taxes	52	51	49	48	46	45	44	42	41	40
	Taxes on Equity Return										
4	State	0	0	0	0	0	0	0	0	0	0
5	Federal	43	41	40	38	37	35	34	33	31	30
6	Total Taxes	43	41	40	38	37	35	34	33	31	30
	Return on Rate Base										
7	Debt	88	85	82	79	76	73	70	67	65	62
8	Short Term Debt	1	1	1	1	1	1	1	1	1	1
9	Common Equity	159	154	148	143	138	132	127	122	118	113
10	Total Return	248	240	231	222	214	206	198	190	183	175
11	Subtotal Cost of Service	487	478	467	458	448	439	430	421	412	404
12	Revenue Sensitive Items	21	20	20	19	19	19	18	18	17	17
13	Total Cost of Service	\$508	\$498	\$487	\$477	\$467	\$457	\$448	\$439	\$430	\$421
	_										
14	Annual Cost of Service as % of Investment	14.48%	14.20%	13.89%	13.60%	13.31%	13.03%	12.77%	12.51%	12.25%	12.00%
Rate	Base - net of deprec. & def. tax	\$3,457	\$3,345	\$3,222	\$3,102	\$2,986	\$2,874	\$2,764	\$2,658	\$2,553	\$2,448

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

_	RS 1	RS 2
Monthly Charge	\$5.50	\$8.00
Base Rate	\$0.68791	\$0.46523
Annual UPC	229.5	678.3
Total Annual Marg	\$223.88	\$411.57