

**BEFORE THE WASHINGTON
UTILITIES & TRANSPORTATION COMMISSION**

WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION,

Complainant,

v.

PUGET SOUND ENERGY

Respondent.

DOCKET NOS. UE-190529 and UG-190530 (*Consolidated*)

PAUL J. ALVAREZ ON BEHALF OF PUBLIC COUNSEL UNIT

EXHIBIT PJA-5

Puget Sound Energy Response to Public Counsel Data Request No. 146, Attachment A

November 22, 2019

BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

**Dockets UE-190529 & UG-190530
Puget Sound Energy
2019 General Rate Case**

PUBLIC COUNSEL DATA REQUEST NO. 146:

Please refer to PSE's response to Public Counsel Data Request No. 70.

- a) Please complete the following table for all assets expected to be replaced by the AMI project:

	Estimated Useful Life of Assets (in Years) when New	Average Age of All Assets Expected to be Replaced by AMI project as of June 30, 2018
Electric AMR Meters		
Gas AMR Modules		
AMR Network Equipment		

- b) Using the numbers from PSE's response to Public Counsel Data Request No. 70 and the information provided in the table above, estimate the revenue requirement associated with the assets to be replaced by the AMI project. Provide the workpapers used to arrive at this estimate with your response. Assume that the no depreciation adjustments of the potential described by PSE in its response to Public Counsel Data Request No. 70 are made.

Response:

- a) **Estimated Useful Life of Assets (in Years) when New:** The assets in these accounts have been installed at different points in time. Because depreciation studies have been performed periodically, each vintage of plant did not necessarily have the same estimated useful life when new. Additionally, each account may include assets other than those listed in the table above and the estimated useful lives in each depreciation study were for the full account and/or subaccount. The useful lives for these accounts in the most recent depreciation study can be found on pages VI-11 through VI-14 of the 2016 Depreciation Study. The useful lives for these accounts in the previous depreciation study can be found on pages III-8 through III-11 of the 2006 Depreciation Study. Attached as Attachments A and B to Puget Sound Energy's ("PSE") Response to Public Counsel Data Request No. 146, please find copies of the referenced pages.

Average Age of All Assets Expected to be Replaced by AMI project as of June 30, 2018: With the exception of Automatic Meter Reading (“AMR”) electric meters, most of PSE’s AMR assets were originally leased from Landis + Gyr (“L+G”) and were purchased in 2016 for \$1.00. No age data is available for these assets. L+G installed this equipment at different points in time, and without knowing this information, it is not possible to provide an average age for all assets replaced by the Advanced Metering Infrastructure (“AMI”) project as of June 30, 2018. Only replacements since that time are known.

Since PSE did purchase the AMR electric meters new, it is possible to calculate the average age using a weighted average of the book costs, which is 17.17 years.

- b) PSE is not able to estimate the revenue requirement from the information provided in response to subpart (a) for the reasons discussed in subpart (a). However, please refer to Attachment A to PSE’s Response to Public Counsel Data Request No. 146, which includes a calculation of revenue requirement at the end of the AMI roll out period and is based on the June 30, 2018, net book value from PSE’s First Revised Response to Public Counsel Data Request No. 070, provided concurrently with this response. The information provided includes the original costs, accumulated depreciation, depreciable lives, and vintages for this equipment.

**ATTACHMENT A to PSE's Response to
PUBLIC COUNSEL Data Request No. 146**

YEARLY PROJECTED DEPRECIATION EXPENSES

Vintage Year	Original Cost from Asset 1126 Report	A/D in JUN 2018 from Asset 1126 Report	Jul-Dec 2018	2019	2020	2021	2022	2023	Total Depreciation 6/2018-12/2023	A/D in 2023	Net Value in 2023
ELECTRIC AMR METER E3700											
1953	\$ 83,523	\$ (91,876)	\$ (3,483)	\$ (6,966)	\$ (6,966)	\$ (6,966)	\$ (6,966)	\$ (6,966)	\$ (38,312)	\$ (130,188)	\$ (46,665)
1954	15,000	(16,500)	(625)	(1,251)	(1,251)	(1,251)	(1,251)	(1,251)	(6,880)	(23,380)	(8,380)
1955	78,786	(86,664)	(3,285)	(6,571)	(6,571)	(6,571)	(6,571)	(6,571)	(36,139)	(122,803)	(44,018)
1956	26,226	(28,849)	(1,094)	(2,187)	(2,187)	(2,187)	(2,187)	(2,187)	(12,030)	(40,879)	(14,652)
1957	39,241	(36,285)	(1,636)	(3,273)	(3,273)	(3,273)	(3,273)	(3,273)	(18,000)	(54,285)	(15,044)
1959	40,133	(30,876)	(1,674)	(3,347)	(3,347)	(3,347)	(3,347)	(3,347)	(18,409)	(49,285)	(9,152)
1960	27,557	(21,488)	(1,149)	(2,298)	(2,298)	(2,298)	(2,298)	(2,298)	(12,640)	(34,128)	(6,571)
1961	27,254	(20,837)	(1,136)	(2,273)	(2,273)	(2,273)	(2,273)	(2,273)	(12,501)	(33,339)	(6,085)
1964	44,610	(30,962)	(1,860)	(3,720)	(3,720)	(3,720)	(3,720)	(3,720)	(20,463)	(51,425)	(6,815)
1965	60,328	(40,473)	(2,516)	(5,031)	(5,031)	(5,031)	(5,031)	(5,031)	(27,672)	(68,146)	(7,818)
1966	4,058	(2,633)	(169)	(338)	(338)	(338)	(338)	(338)	(1,861)	(4,494)	(437)
1967	67,980	(42,698)	(2,835)	(5,670)	(5,670)	(5,670)	(5,670)	(5,670)	(31,182)	(73,881)	(5,901)
1968	180,287	(109,690)	(7,518)	(15,036)	(15,036)	(15,036)	(15,036)	(15,036)	(82,698)	(192,388)	(12,101)
1969	225,657	(133,095)	(9,410)	(18,820)	(18,820)	(18,820)	(18,820)	(18,820)	(103,509)	(236,604)	(10,947)
1970	266,330	(152,390)	(11,106)	(22,212)	(22,212)	(22,212)	(22,212)	(22,212)	(122,165)	(274,556)	(8,226)
1971	121,143	(67,294)	(5,052)	(10,103)	(10,103)	(10,103)	(10,103)	(10,103)	(55,568)	(122,862)	(1,719)
1972	1,024,916	(553,087)	(42,739)	(85,478)	(85,478)	(85,478)	(85,478)	(85,478)	(470,129)	(1,023,216)	1,700
1973	243,446	(127,705)	(10,152)	(20,303)	(20,303)	(20,303)	(20,303)	(20,303)	(111,669)	(239,374)	4,073
1974	465,566	(237,546)	(19,414)	(38,828)	(38,828)	(38,828)	(38,828)	(38,828)	(213,555)	(451,101)	14,465
1975	268,469	(133,311)	(11,195)	(22,390)	(22,390)	(22,390)	(22,390)	(22,390)	(123,147)	(256,458)	12,012
1976	630,598	(304,898)	(26,296)	(52,592)	(52,592)	(52,592)	(52,592)	(52,592)	(289,256)	(594,153)	36,445
1977	741,941	(349,471)	(30,939)	(61,878)	(61,878)	(61,878)	(61,878)	(61,878)	(340,328)	(689,800)	52,141
1978	1,308,792	(600,821)	(54,577)	(109,153)	(109,153)	(109,153)	(109,153)	(109,153)	(600,343)	(1,201,163)	107,628
1979	1,376,103	(615,933)	(57,383)	(114,767)	(114,767)	(114,767)	(114,767)	(114,767)	(631,218)	(1,247,152)	128,951
1980	1,393,905	(608,536)	(58,126)	(116,252)	(116,252)	(116,252)	(116,252)	(116,252)	(639,384)	(1,247,920)	145,985
1981	1,357,435	(578,215)	(56,605)	(113,210)	(113,210)	(113,210)	(113,210)	(113,210)	(622,655)	(1,200,871)	156,564
1982	35,481	(14,751)	(1,480)	(2,959)	(2,959)	(2,959)	(2,959)	(2,959)	(16,275)	(31,026)	4,455
1983	1,134,366	(460,405)	(47,303)	(94,606)	(94,606)	(94,606)	(94,606)	(94,606)	(520,333)	(980,738)	153,627
1984	1,461,324	(579,166)	(60,937)	(121,874)	(121,874)	(121,874)	(121,874)	(121,874)	(670,309)	(1,249,476)	211,848
1985	1,565,606	(606,024)	(65,286)	(130,572)	(130,572)	(130,572)	(130,572)	(130,572)	(718,143)	(1,324,168)	241,438
1986	1,551,580	(586,691)	(64,701)	(129,402)	(129,402)	(129,402)	(129,402)	(129,402)	(711,710)	(1,298,401)	253,179
1987	1,474,651	(544,767)	(61,493)	(122,986)	(122,986)	(122,986)	(122,986)	(122,986)	(676,422)	(1,221,189)	253,462
1988	2,108,482	(761,050)	(87,924)	(175,847)	(175,847)	(175,847)	(175,847)	(175,847)	(967,161)	(1,728,211)	380,271
1989	1,217,888	(429,539)	(50,786)	(101,572)	(101,572)	(101,572)	(101,572)	(101,572)	(558,645)	(988,185)	229,704
1990	1,990,060	(685,838)	(82,986)	(165,971)	(165,971)	(165,971)	(165,971)	(165,971)	(912,841)	(1,598,678)	391,382
1991	1,538,311	(518,021)	(64,148)	(128,295)	(128,295)	(128,295)	(128,295)	(128,295)	(705,623)	(1,223,644)	314,667
1992	1,616,799	(531,957)	(67,421)	(134,841)	(134,841)	(134,841)	(134,841)	(134,841)	(741,626)	(1,273,583)	343,216
1993	1,525,514	(490,345)	(63,614)	(127,228)	(127,228)	(127,228)	(127,228)	(127,228)	(699,753)	(1,190,099)	335,416
1994	1,929,194	(605,702)	(80,447)	(160,895)	(160,895)	(160,895)	(160,895)	(160,895)	(884,921)	(1,490,623)	438,571
1995	2,067,613	(633,949)	(86,219)	(172,439)	(172,439)	(172,439)	(172,439)	(172,439)	(948,414)	(1,582,364)	485,250
1996	1,632,741	(488,742)	(68,085)	(136,171)	(136,171)	(136,171)	(136,171)	(136,171)	(748,938)	(1,237,680)	395,061
1997	2,475,990	(723,329)	(103,249)	(206,498)	(206,498)	(206,498)	(206,498)	(206,498)	(1,135,737)	(1,859,065)	616,925
1998	998,998	(284,702)	(41,658)	(83,316)	(83,316)	(83,316)	(83,316)	(83,316)	(458,240)	(742,943)	256,055
1999	17,746,809	(4,931,318)	(740,042)	(1,480,084)	(1,480,084)	(1,480,084)	(1,480,084)	(1,480,084)	(8,140,461)	(13,071,780)	4,675,029
2000	3,818,637	(1,033,947)	(159,237)	(318,474)	(318,474)	(318,474)	(318,474)	(318,474)	(1,751,609)	(2,785,556)	1,033,081
2001	12,985,204	(3,423,501)	(541,483)	(1,082,966)	(1,082,966)	(1,082,966)	(1,082,966)	(1,082,966)	(5,956,313)	(9,379,814)	3,605,390
2002	5,736,904	(1,471,486)	(239,229)	(478,458)	(478,458)	(478,458)	(478,458)	(478,458)	(2,631,518)	(4,103,004)	1,633,901

YEARLY PROJECTED DEPRECIATION EXPENSES

Vintage Year	Original Cost from Asset 1126 Report	A/D in JUN 2018 from Asset 1126 Report	Jul-Dec 2018	2019	2020	2021	2022	2023	Total Depreciation 6/2018-12/2023	A/D in 2023	Net Value in 2023
2003	2,901,179	(723,208)	(120,979)	(241,958)	(241,958)	(241,958)	(241,958)	(241,958)	(1,330,771)	(2,053,978)	847,200
2004	2,693,784	(651,828)	(112,331)	(224,662)	(224,662)	(224,662)	(224,662)	(224,662)	(1,235,639)	(1,887,467)	806,317
2005	3,056,189	(716,811)	(127,443)	(254,886)	(254,886)	(254,886)	(254,886)	(254,886)	(1,401,874)	(2,118,685)	937,504
2006	6,150,711	(1,395,897)	(256,485)	(512,969)	(512,969)	(512,969)	(512,969)	(512,969)	(2,821,331)	(4,217,228)	1,933,483
2007	5,997,876	(1,313,966)	(250,111)	(500,223)	(500,223)	(500,223)	(500,223)	(500,223)	(2,751,226)	(4,065,191)	1,932,685
2008	3,632,121	(765,177)	(151,459)	(302,919)	(302,919)	(302,919)	(302,919)	(302,919)	(1,666,054)	(2,431,231)	1,200,890
2009	3,526,402	(710,386)	(147,051)	(294,102)	(294,102)	(294,102)	(294,102)	(294,102)	(1,617,560)	(2,327,946)	1,198,455
2010	1,637,120	(312,872)	(68,268)	(136,536)	(136,536)	(136,536)	(136,536)	(136,536)	(750,947)	(1,063,819)	573,301
2011	1,686,729	(302,500)	(70,337)	(140,673)	(140,673)	(140,673)	(140,673)	(140,673)	(773,703)	(1,076,203)	610,526
2012	1,369,990	(227,092)	(57,129)	(114,257)	(114,257)	(114,257)	(114,257)	(114,257)	(628,415)	(855,507)	514,484
2013	1,932,108	(289,599)	(80,569)	(161,138)	(161,138)	(161,138)	(161,138)	(161,138)	(886,258)	(1,175,857)	756,251
2014	4,377,156	(573,666)	(182,527)	(365,055)	(365,055)	(365,055)	(365,055)	(365,055)	(2,007,801)	(2,581,468)	1,795,688
2015	4,274,226	(463,093)	(178,235)	(356,470)	(356,470)	(356,470)	(356,470)	(356,470)	(1,960,587)	(2,423,681)	1,850,545
2016	9,822,298	(789,730)	(409,590)	(819,180)	(819,180)	(819,180)	(819,180)	(819,180)	(4,505,488)	(5,295,219)	4,527,080
2017	6,288,015	(284,413)	(262,210)	(524,420)	(524,420)	(524,420)	(524,420)	(524,420)	(2,884,313)	(3,168,725)	3,119,290
2018	1,103,209	(13,782)	(46,004)	(92,008)	(92,008)	(92,008)	(92,008)	(92,008)	(506,042)	(519,824)	583,385
	\$ 137,180,550	\$ (34,361,386)	\$ (5,720,429)	\$ (11,440,858)	\$ (11,440,858)	\$ (11,440,858)	\$ (11,440,858)	\$ (11,440,858)	\$ (62,924,718)	\$ (97,286,104)	\$ 39,894,445

GAS AMR MODULE G3813

2015	\$ 2,004,390	\$ (158,971)	\$ (70,154)	\$ (140,307)	\$ (140,307)	\$ (140,307)	\$ (140,307)	\$ (140,307)	\$ (771,690)	\$ (930,661)	\$ 1,073,729
2016	5,588,431	(308,535)	(195,595)	(391,190)	(391,190)	(391,190)	(391,190)	(391,190)	(2,151,546)	(2,460,081)	3,128,350
2017	6,094,431	(176,023)	(213,305)	(426,610)	(426,610)	(426,610)	(426,610)	(426,610)	(2,346,356)	(2,522,379)	3,572,052
2018	2,783,167	(20,825)	(97,411)	(194,822)	(194,822)	(194,822)	(194,822)	(194,822)	(1,071,519)	(1,092,345)	1,690,822
	\$ 16,470,419	\$ (664,354)	\$ (576,465)	\$ (1,152,929)	\$ (1,152,929)	\$ (1,152,929)	\$ (1,152,929)	\$ (1,152,929)	\$ (6,341,111)	\$ (7,005,465)	\$ 9,464,954

GAS AMR MODULE INSTALLATION G3823

2015	\$ 326,097	\$ (23,496)	\$ (3,669)	\$ (7,337)	\$ (7,337)	\$ (7,337)	\$ (7,337)	\$ (7,337)	\$ (40,354)	\$ (63,851)	\$ 262,246
2016	1,780,938	(84,952)	(20,036)	(40,071)	(40,071)	(40,071)	(40,071)	(40,071)	(220,391)	(305,343)	1,475,595
2017	4,281,362	(101,219)	(48,165)	(96,331)	(96,331)	(96,331)	(96,331)	(96,331)	(529,819)	(631,037)	3,650,325
2018	1,829,352	(10,735)	(20,580)	(41,160)	(41,160)	(41,160)	(41,160)	(41,160)	(226,382)	(237,117)	1,592,235
	\$ 8,217,748	\$ (220,402)	\$ (92,450)	\$ (184,899)	\$ (184,899)	\$ (184,899)	\$ (184,899)	\$ (184,899)	\$ (1,016,946)	\$ (1,237,348)	\$ 6,980,400

AMR NETWORK EQUIPMENT C397

2016	\$ 119,326	\$ (14,273)	\$ (3,978)	\$ (7,955)	\$ (7,955)	\$ (7,955)	\$ (7,955)	\$ (7,955)	\$ (7,955)	\$ (22,228)	\$ 97,098
2017	79,805	(3,940)	(2,660)	(5,320)	(5,320)	(5,320)	(5,320)	(5,320)	(5,320)	(9,260)	70,545
2018	1,633	(32)	(54)	(109)	(109)	(109)	(109)	(109)	(109)	(141)	1,493
	\$ 200,765	\$ (18,245)	\$ (6,692)	\$ (13,384)	\$ (13,384)	\$ (13,384)	\$ (13,384)	\$ (13,384)	\$ (13,384)	\$ (31,629)	\$ 169,136

Notes

1. Electric AMR Meter depreciation expense rate is 8.34%
2. Gas AMR Module depreciation expense rate is 7% and Gas AMR Module Installation depreciation expense rate is 2.25%
3. Vintage year, original cost, average meter/ module cost, and accumulated depreciation expense are from Power Plant report (Asset 1126 report)
4. No additions or retirements were considered for this analysis. Retirements would not impact overall ratebase as they are a debit to accumulated depreciation and a credit to gross plant.
5. Prior to 2015, Puget Sound Energy leased Gas AMR modules and AMR Network Equipment from Landis & Gyr, they were acquired from Landis & Gyr for \$1, which was attributed to Gas Modules and nothing to AMR Network Equip