

**EXH. DAH-3
DOCKETS UE-19 ___/UG-19 ___
2019 PSE GENERAL RATE CASE
WITNESS: DUANE A. HENDERSON**

**BEFORE THE
WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION**

**WASHINGTON UTILITIES AND
TRANSPORTATION COMMISSION,**

Complainant,

v.

PUGET SOUND ENERGY,

Respondent.

**Docket UE-19 ___
Docket UG-19 ___**

**SECOND EXHIBIT (NONCONFIDENTIAL) TO THE
PREFILED DIRECT TESTIMONY OF**

DUANE A. HENDERSON

ON BEHALF OF PUGET SOUND ENERGY

JUNE 20, 2019

2012 - 10 Year Plan HP Project

Year	HP/IP/ DR/LNG	Project Title	Length	Diameter	From Node	To Node	OP Map	Location	Description
Year 1=2013=2013-14 Models									
2013	HP	Roy and Taylor new DR & HP	200'	8"	No267	No269	188068	Seattle	Install new DR27XX, 200" HP pipe & 800' of 8" IP for Harrison Retirement
2013	HP	N Lacey Reduced Scope HP and DR	6000'	12"	SP420	No281	264026	Lacey	Install 6000 feet of 12" HP and a new DR from HP on Marvin Rd to I-5 and drop in a new DR to feed IP. This is a reduced scope project from the larger N Lacey Project. It has tentative budget dollars for 2013.
2013	HP	Kent LS1996 Uprate/Pressure Increase	4000 feet	6"	XA1422	XA1435	216080	South King	Pressure Increase piping downstream of LS1996 from 100 psig to 250 psig, End of line HP down to 70 psig
Year 2=2014=2014-15									
2014	HP	Everett Delta Heater Install							Frost Issues, complete install in 2013, but order heater in 2012
2014	HP	Tolt Corridor Phase I	2.8 miles	16"	No375	No378	172.086 172.092	North King	Phase I runs along the corridor connecting two HP laterals off of the Duvall Gate Station. Pressures in Kirkland off the HP are expected to be below 120 psig on a design day in 2013.
2014	GS	Redmond Gate Station	na	4"	SP121	REG1342	180.092	Redmond	Replace the 4" mooney regulators with regulating ball valves. Raises capacity from 2818 MCFH to 3237 MCFH. Capacity is based on full capacity of mooney regs in one run and 20% of the capacity of the second run. Estimated Williams cost is 65K
Year 3=2015=2015-16									
2015	HP	14th Ave/lacey Blvd 12" HP	6700'	12"	ZZ0104	SP419	268020	N. Lacey	Parallel existing 6" on 14th Ave and Lacey Blvd from south connection to DR0313. Pressure at end of N lacey HP down to 85, increases to 170 psig after fix (out at lakeside). This project is accelerated by many years due to the small N lacey project being put in place instead of the 5 mile version. You could possibly also do the Uprate and new LS Olympia job, but this will not have as much benefit and may only gain about 113 at end of line maximum if you had 238 psig at the location of the new LS.
2015	HP	Bonney Lake HP 12"	2.0 Miles	12"	LT0590	SP0997	240086	Bonney Lake	End of line pressure was 110 psig , but is trending 20 psig high based on the baseline day. Therefore potential pressure is 90 psig. That is our minimum on that lateral. Also, there could be growth in the old cascadia area, that is not currently shown in the model. This could be a shorter project if needed and would last a few years. The model went from 110 to 156.6 psig with the project
Year 4=2016=2016-17									
NA									
Year 5=2017=2017-18									
2017	HP	Vashon Island HP Upgrade Phase 1	13,000	12	SP296	SP297	220062	Gig Harbor	12" HP from east side of Vashon landfall along Pt Robinson road for a total of 13,000 feet. Allowed Gig LNG to be 56.8 from 58 psig.
Year 6=2018=2018-19									
2018	HP	Greenlake Lateral	3.26 miles	12"	SP179	SP188	176.068 180.068 184.068	Seattle	The installation of this 12" main allows for more flow to go through the Fremont LS and lifts some load from the N. Seattle LS. This increases pressures throughout the Seattle area and will extend the usefulness of select DRs out a few years. For example, the DR0429 and DR2612 now have sufficient inlet pressure to last much longer than before.
Year 7=2019=2019-20									
2019	HP	South Tacoma HP Uprate GS & LS	5.5 Miles	12"	SP1312	No347	252.052	Tacoma	Uprate 5.5 miles from the Crover Creek LS to the intersection of I-5. Add a new LS to the I-5 intersection. Pipeline is already tested for 500 psig. Obtain WJTC approval. Add a new Frederickson GS and most likely a heater also. Inlet to Dupont LS was 137 psig and changed to 195 psig, inlet of Fircrest LS went from 165 to 215 psig. No pressure effect at the 25th and L LS.
2019	HP	New N Seattle GS	n/a	n/a	SP0	SP546	160.092	Lynnwood	Install a new N Seattle GS. Williams will retire their station and PSE to build a new station.
Year 8=2020 (2020-21)									
2020	HP	S. Tacoma to N Tacoma Connector	1 mile	12"	TE0517	SP545	248.062	S Tacoma	Inlet to 25th and L LS dropped to 174, with new mile connector it went to 205.9 with a connector flow of ~1,000,000 scfh
2020	HP	Greenwood HP Pressure Increase and Limit Station (2) Installation	n/a	16"	REG1340	SP1456	160.074	Lynnwood	Install a new 500 psig set pressure LS at the NS TBS and connect into existing Greenwood lateral. Install a new limit station (250psig) at the connection on 212th st sw and 44th ave w. This causes the GS to increase to 12,706,632 from 12,470,000 and NSLS to go from 144.8/1,886,340 to 142.5/1,562,481 and the Fremont LS to go from 145.9/2,127,827 to 151.5/2,520,486.
Year 9=2021 (2021-22)									
NA									
Year 10=2022 (2022-23)									
2022	HP	N Seattle Lateral	3 miles	20"	n/a	n/a	160.092	Lynnwood	Install 3 miles of 20" HP lateral - Williams project. Begin where 2012 project ended (N Bothel TBS), could be pushed out a year or 2 based on Bear Creek/Tolt Ph 2. GS flow drops from ~13.1MM to 12.9MM. Max capacity based on 13,167,100 for 650 psig w/o diversity.
2022	HP	New Bear Creek GS and Tolt Ph 2	6500'	16"	No362	SP727	172092	Duvall	Duval GS needs rebuilding, so time to put in the Tolt Ph 2, this also reduces flow out of N Seattle lateral and GS
2022	HP	Woodinville to Redmond HP Connector	16,000'	12"	XA0640	KJW01	176080	Woodinville	Pressures in the Downtown Bellevue area dropping below 130 psig per new partial sets. Therefore put this in now that we have good pressure off of Duval due to Tolt Ph 2. Could delay a year, but a heads up for it to happen soon. Pressure increases by 30# in Bellevue. Also pushes flow up maybe 100,00 in N Seattle GS