EXHIBIT NO. ___(SML-21)
DOCKET NO. UE-072300/UG-072301
2007 PSE GENERAL RATE CASE
WITNESS: SUSAN MCLAIN

BEFORE THE
WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION, **Complainant,** **v.** **PUGET SOUND ENERGY, INC.,** **Respondent.**	**Docket No. UE-072300** **Docket No. UG-072301**

FIFTH EXHIBIT (NONCONFIDENTIAL) TO THE PREFILED REBUTTAL TESTIMONY OF SUSAN MCLAIN ON BEHALF OF PUGET SOUND ENERGY, INC.

JULY 3, 2008

PSE TOP 50 WORST CIRCUITS PROJECTS

Circuit	5 Year Rank	Projects	Comments
BRS-24	**1**	2005 - CRP; reviewing a tree wire project for circuit	Standards approval of 34 kV tree wire pending. This 34 kV circuit is remote and has no feeder ties.
CLA-13	**2**	No future projects planned at this time	The circuit serves 7 customers at the top of Grass Mountain and the sub is fed from a radial 55 kV transmission tap
LON-22	**3**	1.2007 - CRP in Clearwood 2.2006 - Tree wire project on Bald Hill Rd 3.2007 -Split circuit 22 into two circuits 4.2009 -11 UG feeder replacement in Clearwood 5.2008-09 Reconductor 153rd Ave SE	
LON-26	**4**	2007 - Lindsay Rd Reconductor w/tree wire; 80% of load was shifted to RAI-13	
CHI-12	**5**	Three major expenditure options proposed in the future to remediate reliability problems on this circuit. 1.) Install a new third feeder into the Seabeck-Holly area 2.) Build a new substation and transmission into the Seabeck-Holly area 3.) Underground a good portion of the Chico 34kV system	1.) Currently budgeted for study and possible ROW acquisition beginning in fiscal year 2008, and this project alone is expected to save in the neighborhood of 2.5-5 SAIDI minutes
SIL-13	**6**	Outages include car-pole, and tree outages and cable problems out to Coyle Road. Looking at a potential tree wire of feeder or underground proposal for 2009	
GWR-16	**7**	No future projects planned at this time	The substation is fed from a radial 55 kV transmission tap. the generator at Crystal Mountain provides some power to customers when the circuit and/or substation are out
HYA-13	**8**	2008 Project to replace aged and weathered equipment on HYA-13. Thousands of feet of UG feeder and 1/0 cable installed in the late 1960s and early 1970s will be replaced. Also, construct some 3ph 1/0 ties so padmounted switches can be taken out of service w/o loss of service to customers.	HYA-13 is located along Snoqualmie Pass an area that is typically exposed to high winds and heavy snowfall which prolongs outage response time and restoration.
ORT-22	**9**	Reviewing the following options; (1) Orting Substation 4th breaker, dbl ckt (2) Sunrise - Orting distribution tie, and (3) New Thrift Substation	
DUV-15	**10**	1. 2008 - DUV-15 2ACSR TW Odell Rd 2. Past projects - CRP at Lake Marcell & 112949 297the Pl SE	
LON-23	**11**	2008 - Add second circuit to split into two circuits.	Part of 2008 County PI project.

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DIS-13	**12**	2008 - Tree wire project between the existing recloser 1606 and solid blade switch 13-363. Overhead fault indicators and a fused bypass at switch 1641 (or 1611).	
FAL-15	**13**	2006 - Project to relocate recloser to protect Lk Alice customers from faults on the line South of the Raging River bridge. Worked w/ Vegetation Mgmt to move circuit from 6 yr to 4 yr trim cycle. Trimmed in 2007	Additional capacity and reliability improvements are planned for the transmission line. Reconductoring of line, improved access roads and vegetation management planned for 2008-09.
GRI-13	**14**	2008 - Reconductor 1 mile tree wire on Southshore Rd and convert 1 mile OH to UG on Summit Lk Rd.	
PGA-13	**15**	2008 - Kingston substation	Kingston substation will take a lot of customers off this circuit and additional swtches will aid sectionalizing capability.
BLU-17	**16**	2007 -Shifted 50% of load to BLU-16 and added a recloser to BLU-16.	
FLD-12	**17**	Many previous projects include TW and recloser installations; FLD-12 to BRO-16 feeder tie (future)	
HAM-13	**18**	2008 - UG conversion on South Skagit Hwy (2008). HAM-13 to NLM-13 feeder tie (future)	
SKY-25	**19**	1. 2008 - Replace fuses with solid blades to aid fuse coordination. 2. 2009 - Investigate TW or UG project for Old Cascade Hwy	
DUV-12	**20**	1. 2007 - 2607E040 DUV-12 Add 3rd phase Lake Margaret	
		2. 2007 - 2607E040 DUV-12 320 AV NE #2 ACSR TW	
		3. 2007 - 2607E040 DUV-12 FDR TW Mt View Rd	
VAS-13	**21**	No improvements proposed at this time due to undergrounding cost to solve tree problems.	Will continue to review.
HAM-15	**22**	2005, 2006 and 2008 - Pole replacement projectsPole replacements. BRS-13 to HAM-15 feeder tie (future)	Reliability has significantly improved per 2006 rank due to pole replacements.
SLA-16	**23**	2010 - LAB-26 to SLA-16 feeder tie	Poor SAIDI due to car-pole accident history.
CUM-13	**24**	2006/2007 - Tacoma Headworks rebuild feeder	
LGY-15	**25**	Tree wire (2007 carryover - construction not funded for 2008). Useless Bay Substation (2010)	
SHA-13	**26**	Installation recloser being reviewed	Very short feeder in the worst wooded area in Pierce Co.
NOP-23	**27**	2006 NOP23 Rebuild 10604894, rebuild project should help No future project planned at this time.	

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SIL-16	**28**	2007 - Tree wire installed Seabeck Highway	Will continue to review outages looking for improvement projects
SWI-17	**29**	1.2006-07 CRP in Sunwood Lakes. 2.Future Replace 350 fdr with 750 fdr	
SKY-23	**30**	Numbers inflated by Maloney Ridge outages	Need customer agreement/funding to replace cables
QUI-26	**31**	Proposed 6 additional switches to isolate sections of feeder by servicemen to reduce outage impacts.	
WIN-15	**32**	2007 - OH-UG conversion	
THO-13	**33**	None	Normally this circuit is quite reliable. Unfortunately, the 12/14/06 major storm outage was included in the SAIDI data for this circuit and not designated as a major storm which would have excluded this outage from the SAIDI results. This circuit would then have dropped off the top 50 list.
IRO-15	**34**	Future - Install loop on West Valley Road	
ELD-25	**35**	2005-06 1.5 miles treewire installed on Cooper Pt Rd & several side laterals.	
CHR-22	**36**	2008 - Kingston substation	Kingston Substation will allow this circuit's cross country problem area to be isloated.
PGA-12	**37**	Projects being reviewed include potential reclosers and switches; eventually need a 4th circuit out of Poulsbo and an additional feeder tie from Poulsbo heading north toward Port Gamble	
WLK-13	**38**	Future - Buckley substation rebuild	Will increase backup capacity available, reduce response and restoration time, and increase backup capacity available in the area, reduce response and restoration times
COT-13	**39**	1.2007 - COT-13 UG OLD WOODINVILLE-DUVAL 2. 2008 - COT-13 UG Mink Rd 3. Future - COT-13 NE 145 St FDR TW 4. Future - CRP: 244TH AVE NE & NE 196TH ST	
LLS-17	**40**	2006 - CRP; 2007 - Tree Wire completed for entire feeder, new distribution switches installed and transmission pole replacement;	Reliability has significantly improved per 2006 rank.
MIL-22	**41**	The relocation for two reclosers to better isloate problems is being evaluated.	This circuit was realligned with the Kingston Substation new circuits project. The relocation for two reclosers to better isloate problems is being evaluated.
KEN-13	**42**	Single phase tree wire has been installed. Reviewing additional tree wire installation	
FRA-12	**43**	Circuit reconfigured in the past; Future reclosers will be installed	
SOO-25	**44**	2001 TW Kent-Black Diamond Rd & -1001195 SE 272 ST AND 152 AVE SE 1998 TW 101000018 168 Ave SE	
NUG-26	**45**	NUG-26 to KEN-12 feeder tie (2011)	Pole relocation has reduced car-pole accidents.

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BON-16	**46**	BON-16 TO RHO-13 feeder tie (2007)	This feeder tie will redistribute the load and decrease restoration times
HOB-15	**47**	Four Corners substation (2009)	Load will be split up between Hobart and Four Corner and will help reduce outage duration
DIS-12	**48**	No cost effective distribution solution found. Problems in the transmission and substation caused the highest customer outage numbers.	No customer complaint identified during the study in 2006. System is continuing being monitored and maintenance continues.
CLE-11	**49**	None	Circuit is a long 34kV circuit in Kittitas County. Normally circuit is quite reliable. Unfortunately, the 12/15/06 major storm outage was included in the SAIDI data for this circuit and not designated as a major storm which would have excluded this outage from the SAIDI results. This circuit would then have dropped off the top 50 list.
NOR-24	**50**	1. 2006 -NOR-24 Replace BO Switch 3. 2005 -NOR-24 REPLACE 13 BO poles 3. 2004 - NOR-24 PRP 4 poles 4. 2003 - NOR-24 Downtown Kirkland CRP	