Exhibit ___ (YKGM-6)
Docket Nos. UE-040640, et al.
Witness: Yohannes K.G. Mariam

BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION, Complainant, v. PUGET SOUND ENERGY, INC. Respondent.	DOCKET NO. UG-040640 DOCKET NO. UE-040641 *(consolidated)*

EXHIBIT TO TESTIMONY OF

Yohannes K.G. Mariam

STAFF OF
WASHINGTON UTILITIES AND
TRANSPORTATION COMMISSION

Natural Gas Forward Price Statistical Analyses

September 23, 2004

Exhibit__(YKGM-6): Table 1. Regression analysis of Henry Hub spot price on NYMEX average forward strip prices (2001-2004)					
Variable	Coefficient	Std. Error	t-Statistic	Prob.	
Constant	0.78271	1.797311	0.435489	0.6667	
WK1	-0.286419	0.208848	-1.371424	0.1815	
WK2	3.705546	1.22889	3.015359	0.0055	
WK3	-3.658578	2.114302	-1.730395	0.095	
MNTH1	0.005607	1.452728	0.00386	0.9969	
MNTH2	2.154052	0.839787	2.564997	0.0162	
MNTH3	-3.140852	1.216043	-2.582845	0.0155	
MNTH4	3.930161	2.030846	1.935233	0.0635	
MNTH5	-3.773997	2.52781	-1.492991	0.147	
MNTH6	1.886938	1.509618	1.249944	0.222	
AR(1)	0.73338	0.292438	2.507812	0.0185	
R-squared	0.919166	Mean dependent var		4.358342	
Adjusted R-squared	0.889228	S.D. dependent var		1.429897	
S.E. of regression	0.475905	Akaike info criterion		1.59	
Sum squared resid	6.115104	Schwarz criterion		2.064038	
Log likelihood	-19.21	F-statistic		30.70189	
Durbin-Watson stat	1.738168	Prob(F-statistic)		0	

Exhibit__(YKGM-6): Table 2a: Regression of Henry Hub Spot price on Individual Average forward Strips

Dependent Variable: HENRY					Dependent Variable: HENRY					Dependent Variable: HENRY				
Variable	Coefficient	Std. Error	t-Statistic	Prob.	Variable	Coefficient	Std. Error	t-Statistic	Prob.	Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.499886	0.277305	1.802658	0.0801	C	0.086402	0.285231	0.302919	0.7637	C	0.235645	0.367916	0.640486	0.526
WK1	0.892161	0.061233	14.56985	0	WK2	0.974167	0.062483	15.59085	0	WK3	0.939128	0.080325	11.69168	0
AR(1)	-0.195651	0.179965	-1.087162	0.2844	AR(1)	-0.078847	0.179734	-0.438688	0.6636	AR(1)	0.074533	0.185815	0.401113	0.6908
R-squared	0.834408	Mean dependent var		4.358342	R-squared	0.877378	Mean dependent var		4.358342	R-squared	0.856567	Mean dependent var		4.358342
Adjusted R-squared	0.824945	S.D. dependent var		1.429897	Adjusted R-squared	0.870371	S.D. dependent var		1.429897	Adjusted R-squared	0.848371	S.D. dependent var		1.429897
S.E. of regression	0.598262	Akaike info criterion		1.886081	S.E. of regression	0.51482	Akaike info criterion		1.585657	S.E. of regression	0.556796	Akaike info criterion		1.742422
Sum squared resid	12.52712	Schwarz criterion		2.015364	Sum squared resid	9.276383	Schwarz criterion		1.714941	Sum squared resid	10.85077	Schwarz criterion		1.871705
Log likelihood	-32.83555	F-statistic		88.18127	Log likelihood	-27.12749	F-statistic		125.2153	Log likelihood	-30.10601	F-statistic		104.5081
Durbin-Watson stat	2.057837	Prob(F-statistic)		0	Durbin-Watson stat	2.010615	Prob(F-statistic)		0	Durbin-Watson stat	2.060188	Prob(F-statistic)		0

Exhibit__(YKGM_6): Table 2b: Regression of Henry Hub Spot price on Individual Average forward Strips

Dependent Variable: HENRY					Dependent Variable: HENRY					Dependent Variable: HENRY				
Variable	Coefficient	Std. Error	t-Statistic	Prob.	Variable	Coefficient	Std. Error	t-Statistic	Prob.	Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.379229	0.459351	0.825575	0.4146	C	0.868437	0.961971	0.902768	0.3728	C	2.688345	2.537087	1.059619	0.2966
MNTH1	0.909715	0.100517	9.050378	0	MNTH2	0.803719	0.209725	3.832252	0.0005	MNTH3	0.420835	0.505381	0.832709	0.4107
AR(1)	0.202021	0.192096	1.051666	0.3002	AR(1)	0.536362	0.215664	2.487023	0.0178	AR(1)	0.827969	0.205218	4.034576	0.0003
R-squared	0.845531	Mean dependent var		4.358342	R-squared	0.84481	Mean dependent var		4.358342	R-squared	0.841064	Mean dependent var		4.358342
Adjusted R-squared	0.836704	S.D. dependent var		1.429897	Adjusted R-squared	0.835942	S.D. dependent var		1.429897	Adjusted R-squared	0.831982	S.D. dependent var		1.429897
S.E. of regression	0.57782	Akaike info criterion		1.816548	S.E. of regression	0.579167	Akaike info criterion		1.821206	S.E. of regression	0.586114	Akaike info criterion		1.845051
Sum squared resid	11.68565	Schwarz criterion		1.945831	Sum squared resid	11.74022	Schwarz criterion		1.950489	Sum squared resid	12.02353	Schwarz criterion		1.974334
Log likelihood	-31.5144	F-statistic		95.7912	Log likelihood	-31.60292	F-statistic		95.26466	Log likelihood	-32.05598	F-statistic		92.60756
Durbin-Watson stat	2.054794	Prob(F-statistic)		0	Durbin-Watson stat	1.868888	Prob(F-statistic)		0	Durbin-Watson stat	1.884096	Prob(F-statistic)		0

Exhibit__(YKGM-6): Table 2c: Regression of Henry Hub Spot price on Individual Average forward Strips

Dependent Variable: HENRY					Dependent Variable: HENRY					Dependent Variable: HENRY				
Variable	Coefficient	Std. Error	t-Statistic	Prob.	Variable	Coefficient	Std. Error	t-Statistic	Prob.	Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.788443	2.44979	0.73004	0.4702	C	2.149035	2.875584	0.747339	0.4599	C	2.303991	2.963271	0.777516	0.4421
MNTH4	0.616703	0.516835	1.193229	0.2408	MNTH5	0.547991	0.595563	0.920123	0.3638	MNTH6	0.522311	0.60781	0.859333	0.396
AR(1)	0.776903	0.22428	3.463989	0.0014	AR(1)	0.820975	0.200406	4.096563	0.0002	AR(1)	0.841833	0.173252	4.859018	0
R-squared	0.843128	Mean dependent var		4.358342	R-squared	0.841808	Mean dependent var		4.358342	R-squared	0.841248	Mean dependent var		4.358342
Adjusted R-squared	0.834164	S.D. dependent var		1.429897	Adjusted R-squared	0.832768	S.D. dependent var		1.429897	Adjusted R-squared	0.832176	S.D. dependent var		1.429897
S.E. of regression	0.582296	Akaike info criterion		1.831983	S.E. of regression	0.584742	Akaike info criterion		1.840364	S.E. of regression	0.585776	Akaike info criterion		1.843899
Sum squared resid	11.86742	Schwarz criterion		1.961266	Sum squared resid	11.9673	Schwarz criterion		1.969647	Sum squared resid	12.00968	Schwarz criterion		1.973182
Log likelihood	-31.80767	F-statistic		94.05597	Log likelihood	-31.96691	F-statistic		93.1249	Log likelihood	-32.03408	F-statistic		92.73454
Durbin-Watson stat	1.829797	Prob(F-statistic)		0	Durbin-Watson stat	1.824802	Prob(F-statistic)		0	Durbin-Watson stat	1.815994	Prob(F-statistic)		0