Exhibit No. VN-2
Dockets UE-090704 and UG-090705
Witness: Vanda Novak

BEFORE THE WASHINGTON STATE
UTILITIES AND TRANSPORTATION COMMISSION

WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION, Complainant, v. PUGET SOUND ENERGY, INC., Respondent.	DOCKET UE-090704 DOCKET UG-090705

EXHIBIT TO TESTIMONY OF

VANDA NOVAK

STAFF OF
WASHINGTON UTILITIES AND
TRANSPORTATION COMMISSION

Company Response to Staff Data Request No. 186

November 17, 2009

BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

Docket Nos. UE-090704 and UG-090705
Puget Sound Energy, Inc.'s
2009 General Rate Case

WUTC STAFF DATA REQUEST NO. 186

WUTC STAFF DATA REQUEST NO. 186:

Re: Weather Normalization

On pages 8-9 of Ms. Molander's direct testimony, Exhibit (LIM-1T), she describes a modification to the 2006 weather normalization method for holiday variables and she concludes that that change "improves the coefficients on weather." (Page 9, Lines 3-4.) Please provide the analysis supporting that conclusion and a written narrative describing the analysis.

Response:

As described on pages 8-9 of the Prefiled Direct Testimony of Lorin I. Molander, Exhibit No. ___(LIM-1T), "The Company made a minor change to the system model in how it estimates the temperature and load relationship on holidays. The model accounts for holidays specifically since there are other factors that contribute to load on those days that are not weather related. Previously, the model was specified so the non-weather factors that contribute to load were the same for all holidays." This change was also made to the gas system model (which includes separate equations for firm, interruptible, and transportation), as described on page 12 of Exhibit No. ___(LIM-1T).

Attached as Attachment A to Puget Sound Energy, Inc.'s ("PSE") Response to WUTC Staff Data Request No. 186, please find an MS Excel file that contains regression results and statistics supporting the modification of the general holiday variable to specifying individual holidays in the electric and gas system models. Both regressions were run using the updated loads and temperatures for this proceeding, but the holidays are specified differently to examine the difference in effects to the model.

In general, econometric models relating daily loads and daily weather may specify a holiday variable (or variables) to account for the observed difference between energy use on holidays versus energy use on non-holidays that is unrelated to differences in weather. By accounting for the holiday impact on loads, the model is able to better specify the relationship between weather and load. The weather normalization methodology approved in PSE's 2006 general rate case ("GRC"), WUTC Docket Nos. UE-060266 and UG-060267, accounted for the holiday impact on load by including one

holiday dummy variable in the electric and gas system models. The resulting holiday coefficient estimated by the regression was the estimate of the impact on load for all holidays with no differentiation among holidays.

For this proceeding, PSE modified the specification of the holidays in the electric and gas system models. The holiday variable was broken out to represent individual holidays allowing the non-weather factors that affect load to vary for each major holiday (New Year's Day, Christmas Eve, Christmas Day, the day after Christmas, Fourth of July, Memorial Day, Labor Day, Thanksgiving Day, and the day after Thanksgiving Day).

Separating the general holiday dummy variable into a separate dummy variable for each major holiday is based on the theory that each holiday impacts loads differently. PSE tested this theory by running the regression specifying the individual holidays and reviewing the resulting regression statistics. Support for the use of specific holiday variables versus a general holiday variable rests on the following set of assumptions: 1) the majority of the specific holiday variables pass the test of significance, 2) the coefficients on holiday variables are notably different, and 3) overall, the coefficients on weather become better specified.

As can be seen on the 'Electric System UPC Equations' tab of Attachment A to PSE's Response to WUTC Staff Data Request No. 186, the majority of the coefficients on separate holiday variables in this proceeding's model are significant at the 5% level. The coefficients on the holiday variables are also notably different between holidays. Using the electric system model as an example, the coefficient on the Christmas Day variable is -6.063, greater than the estimated coefficient of -3.775 for the Christmas Eve variable.

It is expected that the ability of the model to attribute different coefficients to different holidays allows the weather coefficients to be better specified. The "Std. Error" column reports the estimated standard errors of the coefficient estimates. The standard errors measure the statistical reliability of the coefficient estimates—the larger the standard errors, the more statistical noise are in the estimates. Using the electric system model as an example, adding the standard errors of this proceeding's weather variables (i.e. PCD/PHD variables) gives a summed standard error of 1.729. For the 2006 GRC methodology (with updated information for this proceeding) the summed standard error of the weather variables is 1.753. The decrease in the summed standard error of 1.753 to 1.729 implies that this proceeding's methodology has improved the specification of the weather coefficients.

Additionally, adjusted R-Squared, a commonly referenced statistic used to measure how well the regression model has done at predicting values of the dependent variables with the provided exogenous variables, is higher in the 2009 model where the holidays are specified separately (0.978061 using separate holiday variables versus 0.977349 with one holiday variable).

ATTACHMENT A to PSE's Response to WUTC Staff Data Request No. 186

Electric System Load (Use-per-Customer) Equation

2009 GRC Revised Methodology
Dependent Variable: Electric System Use-Per-Customer
Method: Least Squares
Date: 10/19/09 Time: 08:58
Sample: 1/01/2005 12/31/2008
Included observations: 1461
Convergence achieved after 21 iterations

Variable	Coefficien	Std. Error	t-Statistic	Prob.
C	56.490	1.613	35.017	0.000
JAN	-1.315	2.123	-0.620	0.536
FEB	0.550	2.648	0.208	0.836
MAR	-1.537	1.980	-0.776	0.438
APR	-3.406	1.754	-1.942	0.052
MAY	-3.132	1.675	-1.870	0.062
JUN	-3.562	1.648	-2.162	0.031
JUL	-4.987	1.653	-3.016	0.003
AUG	-3.705	1.644	-2.254	0.024
SEP	-3.406	1.674	-2.034	0.042
OCT	-4.679	1.730	-2.704	0.007
NOV	-1.488	1.845	-0.806	0.420
JAN*PHD65	0.766	0.077	9.924	0.000
JAN*PHD45	0.113	0.099	1.151	0.250
FEB*PHD65	0.543	0.112	4.844	0.000
FEB*PHD45	0.287	0.145	1.981	0.048
MAR*PHD65	0.476	0.065	7.349	0.000
MAR*PHD45	0.507	0.126	4.031	0.000
APR*PHD65	0.384	0.039	9.897	0.000
APR*PHD45	0.847	0.136	6.208	0.000
MAY*PHD65	0.139	0.035	4.010	0.000
SEP*PHD65	0.095	0.052	1.845	0.065
OCT*PHD65	0.479	0.043	11.147	0.000
OCT*PHD45	0.703	0.177	3.982	0.000
NOV*PHD65	0.558	0.055	10.191	0.000
NOV*PHD45	0.593	0.094	6.335	0.000
DEC*PHD65	0.725	0.086	8.463	0.000
DEC*PHD45	0.077	0.106	0.720	0.472
JUN*PCD60	0.213	0.049	4.363	0.000
JUL*PCD60	0.332	0.035	9.524	0.000
AUG*PCD65	0.368	0.052	7.089	0.000
SEP*PCD65	0.284	0.149	1.914	0.056
WE	-4.293	0.081	-52.933	0.000
NYDY	-1.604	0.627	-2.557	0.011
XMASEV	-3.775	0.891	-4.238	0.000
XMASDY	-6.063	0.709	-8.552	0.000
BOXDY	-2.589	0.672	-3.855	0.000
JULY4	-4.832	0.588	-8.221	0.000
MEMDY	-3.719	0.589	-6.310	0.000
LABORDY	-3.156	0.593	-5.321	0.000
THNKSDY	-4.066	0.629	-6.460	0.000
THNKSDYFA	-2.232	0.625	-3.568	0.000
D121506	-46.417	1.366	-33.971	0.000
D121606	-23.302	1.539	-15.144	0.000
D121706	-9.580	1.374	-6.974	0.000
AR(1)	0.640	0.021	30.378	0.000

R-squared	0.978737	Mean dependent v	60.0858
Adjusted R-squared	0.978061	S.D. dependent var	9.385909
S.E. of regression	1.390239	Akaike info criterio	3.527808
Sum squared resid	2734.864	Schwarz criterion	3.694267
Log likelihood	-2531.06	Hannan-Quinn crit	3.589902
F-statistic	1447.37	Durbin-Watson sta	2.077677
Prob(F-statistic)	0		

Inverted AR Roots 0.64

2006 GRC Methodology
Dependent Variable: Electric System Use-Per-Customer
Method: Least Squares
Date: 10/19/09 Time: 08:58
Sample: 1/01/2005 12/31/2008
Included observations: 1461
Convergence achieved after 21 iterations

Variable	Coefficien	Std. Error	t-Statistic	Prob.
C	56.421	1.635	34.513	0.000
JAN	-2.010	2.140	-0.939	0.348
FEB	0.639	2.694	0.237	0.813
MAR	-1.530	2.007	-0.762	0.446
APR	-3.402	1.776	-1.915	0.056
MAY	-3.105	1.696	-1.831	0.067
JUN	-3.513	1.668	-2.106	0.035
JUL	-4.940	1.674	-2.950	0.003
AUG	-3.656	1.665	-2.196	0.028
SEP	-3.358	1.695	-1.981	0.048
OCT	-4.647	1.753	-2.651	0.008
NOV	-1.730	1.871	-0.924	0.355
JAN*PHD65	0.819	0.077	10.671	0.000
JAN*PHD45	0.047	0.098	0.483	0.629
FEB*PHD65	0.543	0.114	4.752	0.000
FEB*PHD45	0.292	0.148	1.973	0.049
MAR*PHD65	0.479	0.066	7.279	0.000
MAR*PHD45	0.508	0.128	3.978	0.000
APR*PHD65	0.388	0.039	9.836	0.000
APR*PHD45	0.846	0.139	6.089	0.000
MAY*PHD65	0.140	0.035	3.978	0.000
SEP*PHD65	0.097	0.052	1.854	0.064
OCT*PHD65	0.481	0.044	11.019	0.000
OCT*PHD45	0.698	0.180	3.885	0.000
NOV*PHD65	0.569	0.056	10.243	0.000
NOV*PHD45	0.584	0.095	6.167	0.000
DEC*PHD65	0.719	0.087	8.278	0.000
DEC*PHD45	0.091	0.108	0.847	0.397
JUN*PCD60	0.213	0.050	4.298	0.000
JUL*PCD60	0.329	0.035	9.312	0.000
AUG*PCD65	0.370	0.053	7.009	0.000
SEP*PCD65	0.291	0.151	1.931	0.054
WE	-4.289	0.083	-51.976	0.000
HOLIDAY	-3.458	0.246	-14.071	0.000
D121506	-46.431	1.391	-33.381	0.000
D121606	-23.350	1.563	-14.938	0.000
D121706	-9.641	1.398	-6.895	0.000
AR(1)	0.628	0.021	29.586	0.000

R-squared	0.977923	Mean dependent v	60.0858
Adjusted R-squared	0.977349	S.D. dependent var	9.385909
S.E. of regression	1.412588	Akaike info criterio	3.55439
Sum squared resid	2839.463	Schwarz criterion	3.691899
Log likelihood	-2558.48	Hannan-Quinn crit	3.605685
F-statistic	1703.639	Durbin-Watson sta	2.089173
Prob(F-statistic)	0		

Inverted AR Roots 0.63

Equation Variables Key
JAN, FEB, ... , NOV = Monthly Dummy Variables
JAN*PHD65, FEB*PHD65, ... , DEC*PHD65 = Monthly Heating degree Days with a 65 F cut point
JAN*PHD45, FEB*PHD45, ... , DEC*PHD45 = Monthly Heating Degree Days with a 45 F cut point
JUN*PCD60, JUL*PCD60 = Monthly Cooling Degree Days with a 60 F cut point
AUG*PCD65, SEP*PCD65 = Monthly Cooling Degree Days with a 65 F cut point
WE = Weekend Dummy Variable
HOLIDAY = Holiday Dummy Variable
NYDY = New Years Day Dummy Variable
XMASEV = Christmas Eve Dummy Variable
XMASDY = Christmas Day Dummy Variable
BOXDY = Day after December 25 Dummy Variable
JULY4 = July 4th Dummy Variable
MEMDY = Memorial Day Dummy Variable
LABORDY = Labor Day Dummy Variable
THNKSDY = Thanksgiving Day = Dummy Variable
THNKSDYFA = Friday After Thanksgiving Dummy Variable
D(MM)(DD)(YY) = Daily Dummy Variable where (MM) is month, (DD) is day, and (YY) is year

Gas Firm Load (Use-per-Customer) Equation

2009 GRC Revised Methodology
Dependent Variable: Gas Firm Use-Per-Customer
Method: Least Squares
Date: 10/19/09 Time: 11:36
Sample: 1/01/2004 10/31/2008
Included observations: 1766
Convergence achieved after 11 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	10.051	16.359	0.614	0.539
JAN	-0.029	0.302	-0.095	0.926
FEB	0.393	0.362	1.086	0.278
MAR	-0.778	0.255	-3.055	0.002
APR	-0.618	0.233	-2.657	0.008
MAY	-0.585	0.225	-2.605	0.009
JUN	-0.579	0.223	-2.604	0.009
JUL	-0.556	0.220	-2.528	0.012
AUG	-0.546	0.220	-2.485	0.013
SEP	-0.586	0.224	-2.621	0.009
OCT	-0.947	0.232	-4.082	0.000
NOV	-0.448	0.292	-1.535	0.125
JANHDD	0.167	0.011	14.623	0.000
FEBHDD	0.130	0.015	8.426	0.000
MARHDD	0.167	0.008	22.266	0.000
APRHDD	0.130	0.005	25.203	0.000
MAYHDD	0.095	0.005	18.696	0.000
JUNHDD	0.074	0.006	11.768	0.000
SEPHDD	0.073	0.007	10.393	0.000
OCTHDD	0.153	0.006	27.360	0.000
NOVHDD	0.157	0.011	14.910	0.000
DECHDD	0.168	0.012	13.726	0.000
JANHDD45	0.033	0.014	2.326	0.020
FEBHDD45	0.075	0.020	3.699	0.000
MARHDD45	0.034	0.017	2.054	0.040
APRHDD45	0.130	0.022	6.008	0.000
NOVHDD45	0.050	0.016	3.211	0.001
DECHDD45	0.017	0.016	1.108	0.268
D121506	-1.167	0.200	-5.831	0.000
WE	-0.075	0.012	-6.109	0.000
IND_DAY	-0.136	0.090	-1.518	0.129
NEWYRDAY	-0.125	0.093	-1.336	0.182
XMAS_EVE	-0.269	0.112	-2.404	0.016
XMAS_DAY	-0.457	0.111	-4.129	0.000
TRENDM	-0.004	0.008	-0.513	0.608
AR(1)	0.518	0.022	23.817	0.000

R-squared	0.985984	Mean dependent v	3.07177
Adjusted R-s	0.9857	S.D. dependent va	1.881532
S.E. of regres	0.224997	Akaike info criterio	-0.12529
Sum squared	87.57872	Schwarz criterion	-0.01365
Log likelihood	146.6285	Hannan-Quinn crit	-0.08404
F-statistic	3477.1	Durbin-Watson sta	2.117339
Prob(F-statisti	0		
Inverted AR R	0.52		

2006 GRC Methodology
Dependent Variable: Gas Firm Use-Per-Customer
Method: Least Squares
Date: 10/19/09 Time: 11:36
Sample: 1/01/2004 10/31/2008
Included observations: 1766
Convergence achieved after 11 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	10.673	16.331	0.654	0.513
JAN	0.003	0.303	0.009	0.993
FEB	0.435	0.364	1.193	0.233
MAR	-0.738	0.255	-2.900	0.004
APR	-0.579	0.232	-2.498	0.013
MAY	-0.541	0.223	-2.421	0.016
JUN	-0.538	0.221	-2.430	0.015
JUL	-0.513	0.219	-2.347	0.019
AUG	-0.504	0.219	-2.305	0.021
SEP	-0.539	0.222	-2.424	0.015
OCT	-0.909	0.231	-3.932	0.000
NOV	-0.423	0.293	-1.444	0.149
JANHDD	0.168	0.012	14.489	0.000
FEBHDD	0.130	0.016	8.312	0.000
MARHDD	0.167	0.008	22.014	0.000
APRHDD	0.131	0.005	24.976	0.000
MAYHDD	0.096	0.005	18.672	0.000
JUNHDD	0.074	0.006	11.693	0.000
SEPHDD	0.073	0.007	10.331	0.000
OCTHDD	0.154	0.006	27.153	0.000
NOVHDD	0.159	0.011	14.842	0.000
DECHDD	0.159	0.011	13.864	0.000
JANHDD45	0.033	0.014	2.295	0.022
FEBHDD45	0.075	0.020	3.667	0.000
MARHDD45	0.034	0.017	2.041	0.041
APRHDD45	0.130	0.022	5.932	0.000
NOVHDD45	0.049	0.016	3.114	0.002
DECHDD45	0.017	0.016	1.063	0.288
WE	-0.076	0.012	-6.126	0.000
HOL	-0.107	0.038	-2.864	0.004
TRENDM	-0.005	0.008	-0.555	0.579
AR(1)	0.511	0.022	23.438	0.000

R-squared	0.985598	Mean dependent v	3.07177
Adjusted R-	0.985341	S.D. dependent va	1.881532
S.E. of regre	0.227808	Akaike info criterio	-0.10268
Sum square	89.98831	Schwarz criterion	-0.00344
Log likelihoo	122.6624	Hannan-Quinn crit	-0.06601
F-statistic	3827.976	Durbin-Watson sta	2.107692
Prob(F-stati	0		
Inverted AR	0.51		

Equation Variables Key
JAN, FEB, ... , NOV = Monthly Dummy Variables
JAN*HDD, FEB*HDD, ... , DEC*HDD = Monthly Heating degree Days with a 65 F cut point
JAN*HDD45, FEB*HDD45, ... , DEC*HDD45 = Monthly Heating Degree Days with a 45 F cut point
WE = Weekend Dummy Variable
HOL = Holiday Dummy Variable
NEWYRDY = New Years Day Dummy Variable
XMAS_EVE = Christmas Eve Dummy Variable
XMAS_DY = Christmas Day Dummy Variable
IND_DAY = July 4th Dummy Variable
D(MM)(DD)(YY) = Daily Dummy Variable where (MM) is month, (DD) is day, and (YY) is year

Note: The individual holidays included in the revised methodology model are those holidays found to be significant.

Gas Interruptible Load (Use-per-Customer) Equation

Revised Methodology (using separate holidays)
Dependent Variable: Gas Interruptible Use-Per-Customer
Method: Least Squares
Date: 10/19/09 Time: 11:36
Sample: 1/01/2004 10/31/2008
Included observations: 1766
Convergence achieved after 82 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-50129.660	2737.636	-18.311	0.000
JAN	44.656	33.167	1.346	0.178
FEB	44.162	37.805	1.168	0.243
MAR	-55.349	33.411	-1.657	0.098
APR	-27.529	30.268	-0.909	0.363
MAY	-19.351	28.442	-0.680	0.496
JUN	-32.182	27.799	-1.158	0.247
JUL	-12.793	27.014	-0.474	0.636
AUG	-14.003	27.005	-0.519	0.604
SEP	-15.141	28.093	-0.539	0.590
OCT	-40.547	30.441	-1.332	0.183
NOV	-16.676	35.350	-0.472	0.637
JANHDD	10.840	0.852	12.730	0.000
FEBHDD	10.959	1.216	9.009	0.000
MARHDD	15.200	1.057	14.375	0.000
APRHDD	13.749	0.900	15.268	0.000
MAYHDD	11.474	0.991	11.575	0.000
JUNHDD	12.207	1.193	10.228	0.000
SEPHDD	10.244	1.313	7.801	0.000
OCTHDD	14.418	1.090	13.227	0.000
NOVHDD	13.506	1.097	12.309	0.000
DECHDD	13.049	1.065	12.257	0.000
WE	-76.135	3.037	-25.067	0.000
NEWYRDAY	-75.023	19.237	-3.900	0.000
XMAS_EVE	-100.287	22.591	-4.439	0.000
XMAS_DAY	-105.241	22.602	-4.656	0.000
IND_DAY	-49.975	18.738	-2.667	0.008
MEM_DAY	-55.174	18.826	-2.931	0.003
LAB_DAY	-47.678	18.805	-2.535	0.011
THKS_DAY	-121.575	22.169	-5.484	0.000
DYAFTTHNKS	-111.161	25.589	-4.344	0.000
TRENDM	25.112	1.365	18.398	0.000
D010404	-365.227	46.913	-7.785	0.000
D010504	-639.320	50.383	-12.689	0.000
D010604	-370.220	46.442	-7.972	0.000
D010405	-567.097	44.851	-12.644	0.000
D010505	-332.730	45.014	-7.392	0.000
AR(1)	0.419	0.027	15.291	0.000

R-squared	0.9101953	Mean dependent var	379.3625
Adjusted R-squ	0.9082724	S.D. dependent var	149.0955
S.E. of regressi	45.155908	Akaike info criterion	10.4794
Sum squared re	3523488.8	Schwarz criterion	10.59724
Log likelihood	-9215.312	Hannan-Quinn criter.	10.52294
F-statistic	473.3447	Durbin-Watson stat	1.833012
Prob(F-statistic)	0		
Inverted AR Ro	0.42		

2006 GRC Methodology
Dependent Variable: Gas Interruptible Use-Per-Customer
Method: Least Squares
Date: 10/19/09 Time: 11:36
Sample: 1/01/2004 10/31/2008
Included observations: 1766
Convergence achieved after 86 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-50070.344	2783.273	-17.990	0.000
JAN	47.040	33.295	1.413	0.158
FEB	47.758	38.051	1.255	0.210
MAR	-51.998	33.597	-1.548	0.122
APR	-24.447	30.415	-0.804	0.422
MAY	-16.126	28.548	-0.565	0.572
JUN	-29.238	27.910	-1.048	0.295
JUL	-9.250	27.093	-0.341	0.733
AUG	-11.015	27.105	-0.406	0.685
SEP	-11.141	28.180	-0.395	0.693
OCT	-37.077	30.591	-1.212	0.226
NOV	-10.734	35.580	-0.302	0.763
JANHDD	10.843	0.861	12.593	0.000
FEBHDD	10.932	1.228	8.904	0.000
MARHDD	15.182	1.067	14.232	0.000
APRHDD	13.747	0.909	15.129	0.000
MAYHDD	11.501	1.000	11.503	0.000
JUNHDD	12.216	1.206	10.130	0.000
SEPHDD	10.200	1.327	7.685	0.000
OCTHDD	14.383	1.100	13.079	0.000
NOVHDD	13.241	1.104	11.990	0.000
DECHDD	13.174	1.072	12.295	0.000
WE	-76.208	3.044	-25.037	0.000
HOL	-65.579	7.710	-8.506	0.000
TRENDM	25.081	1.388	18.074	0.000
D010404	-363.555	47.195	-7.703	0.000
D010504	-637.819	50.764	-12.564	0.000
D010604	-369.256	46.737	-7.901	0.000
D010405	-566.208	45.110	-12.552	0.000
D010505	-331.837	45.276	-7.329	0.000
AR(1)	0.425	0.027	15.590	0.000

R-squared	0.9086252	Mean dependent var	379.3625
Adjusted R	0.9070452	S.D. dependent var	149.0955
S.E. of reg	45.456957	Akaike info criterion	10.48881
Sum squar	3585091.2	Schwarz criterion	10.58494
Log likeliho	-9230.616	Hannan-Quinn criter.	10.52433
F-statistic	575.09106	Durbin-Watson stat	1.823994
Prob(F-sta	0		
Inverted A	0.43		

Equation Variables Key
JAN, FEB, ... , NOV = Monthly Dummy Variables
JAN*HDD, FEB*HDD, ... , DEC*HDD = Monthly Heating degree Days with a 65 F cut point
WE = Weekend Dummy Variable
HOL = Holiday Dummy Variable
NEWYRDY = New Years Day Dummy Variable
XMAS_EVE = Christmas Eve Dummy Variable
XMAS_DY = Christmas Day Dummy Variable
IND_DAY = July 4th Dummy Variable
MEM_DAY = Memorial day Dummy Variable
LAB_DAY = Labor day Dummy Variable
THKS_DAY = Thanksgiving Day Dummy Variable
DYAFTTHNKS = Day After Thanksgiving Dummy Variable
TRENDM = Linear Trend Variable
D(MM)(DD)(YY) = Daily Dummy Variable where (MM) is month, (DD) is day, and (YY) is year

Note: The individual holidays included in the revised methodology model are those holidays found to be significant.

Gas Transportation Load (Use-per-Customer) Equation

Revised Methodology (using separate holidays)
Dependent Variable: Gas Transportation Use-Per-Customer
Method: Least Squares
Date: 10/19/09 Time: 12:33
Sample: 1/01/2004 10/31/2008
Included observations: 1766
Convergence achieved after 8 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-167442.752	28352.177	-5.906	0.000
JAN	300.036	238.697	1.257	0.209
FEB	737.078	263.223	2.800	0.005
MAR	452.200	235.650	1.919	0.055
APR	315.514	217.379	1.451	0.147
MAY	262.042	205.391	1.276	0.202
JUN	468.065	197.465	2.370	0.018
JUL	240.508	197.402	1.218	0.223
AUG	296.867	197.331	1.504	0.133
SEP	266.250	204.882	1.300	0.194
OCT	271.472	218.206	1.244	0.214
NOV	409.286	255.533	1.602	0.109
JANHDD	51.776	6.109	8.475	0.000
FEBHDD	33.228	7.935	4.188	0.000
MARHDD	46.320	6.746	6.866	0.000
APRHDD	45.953	5.818	7.898	0.000
MAYHDD	33.800	6.395	5.285	0.000
SEPHDD	27.283	9.240	2.953	0.003
OCTHDD	40.808	7.000	5.830	0.000
NOVHDD	33.281	7.522	4.424	0.000
DECHDD	47.544	7.260	6.549	0.000
WE	-659.434	14.564	-45.279	0.000
NEWYRDAY	-797.198	111.481	-7.151	0.000
XMAS_EVE	-1035.669	135.821	-7.625	0.000
XMAS_DAY	-1225.598	153.669	-7.976	0.000
BOX_DAY	-264.052	135.678	-1.946	0.052
IND_DAY	-767.100	103.305	-7.426	0.000
MEM_DAY	-587.257	104.114	-5.641	0.000
LAB_DAY	-965.711	103.974	-9.288	0.000
THKS_DAY	-1421.693	126.060	-11.278	0.000
DYAFTTHNKS	-825.959	145.596	-5.673	0.000
TRENDM	85.322	14.133	6.037	0.000
D010404	-2137.442	275.599	-7.756	0.000
D010504	-4000.765	310.535	-12.883	0.000
D010604	-2822.310	275.039	-10.262	0.000
D010405	-3291.622	259.921	-12.664	0.000
D010505	-2331.106	260.851	-8.937	0.000
AR(1)	0.661	0.019	35.649	0.000

R-squared	0.85711263	Mean dependent var	4383.153
Adjusted R-squa	0.85405312	S.D. dependent var	722.6588
S.E. of regressio	276.077312	Akaike info criterion	14.10052
Sum squared res	131705883	Schwarz criterion	14.21836
Log likelihood	-12412.761	Hannan-Quinn criter.	14.14406
F-statistic	280.147055	Durbin-Watson stat	2.036139
Prob(F-statistic)	0		

Inverted AR Roo 0.66

2006 GRC Methodology
Dependent Variable: Gas Transportation Use-Per-Customer
Method: Least Squares
Date: 10/19/09 Time: 11:36
Sample: 1/01/2004 10/31/2008
Included observations: 1766
Convergence achieved after 8 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-167474.827	28117.950	-5.956	0.000
JAN	331.620	238.660	1.390	0.165
FEB	769.782	265.680	2.897	0.004
MAR	481.381	237.264	2.029	0.043
APR	351.485	218.327	1.610	0.108
MAY	296.698	205.920	1.441	0.150
JUN	491.643	197.693	2.487	0.013
JUL	270.584	197.568	1.370	0.171
AUG	331.102	197.579	1.676	0.094
SEP	292.163	205.289	1.423	0.155
OCT	301.951	219.164	1.378	0.168
NOV	471.579	257.164	1.834	0.067
JANHDD	51.848	6.206	8.354	0.000
FEBHDD	33.184	8.097	4.099	0.000
MARHDD	46.496	6.888	6.750	0.000
APRHDD	45.959	5.939	7.739	0.000
MAYHDD	34.716	6.521	5.324	0.000
SEPHDD	27.244	9.397	2.899	0.004
OCTHDD	40.778	7.143	5.708	0.000
NOVHDD	31.135	7.645	4.073	0.000
DECHDD	48.604	7.350	6.613	0.000
WE	-662.251	14.857	-44.575	0.000
HOL	-829.832	44.972	-18.452	0.000
TRENDM	85.322	14.017	6.087	0.000
D010404	-2141.910	282.080	-7.593	0.000
D010504	-4009.082	317.363	-12.632	0.000
D010604	-2828.682	281.488	-10.049	0.000
D010405	-3302.221	266.289	-12.401	0.000
D010505	-2341.856	267.245	-8.763	0.000
AR(1)	0.651	0.019	34.669	0.000

R-squared	0.85027226	Mean dependent var	4383.153
Adjusted R	0.84777105	S.D. dependent var	722.6588
S.E. of reg	281.956385	Akaike info criterion	14.13822
Sum squar	138010964	Schwarz criterion	14.23126
Log likeliho	-12454.051	Hannan-Quinn criter.	14.1726
F-statistic	339.944073	Durbin-Watson stat	2.041633
Prob(F-sta	0		

Inverted A 0.65

Equation Variables Key
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