

**Additional information for the Consultation on Developments of the Incentive for the energy Related Components of the Balancing services Use of System (BSUoS) Costs**

This document present the full outputs for the models developed in Appendix A of the consultation document. The full dataset utilised to derive the models is also available in this website.

The information contained in this document and in the dataset was correct on the date of publication to the best of our knowledge. National Grid is not responsible for the use of the information in this file or in the dataset.

**Model 1**

**Single Model**

Dependent Variable: TARGET

Method: Least Squares

Date: 07/27/09 Time: 09:14

Sample(adjusted): 1 74448

Included observations: 74016

Excluded observations: 432 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-8199.077	135.5103	-60.50519	0.0000
SPNIRP	532.6539	3.084775	172.6719	0.0000
SPNIRP_TQEI	-0.882726	0.005822	-151.6190	0.0000
SPNIRP_TQEI*SHO	-0.354172	0.009991	-35.45061	0.0000
RT				
R-squared	0.733568	Mean dependent var	11632.02	
Adjusted R-squared	0.733558	S.D. dependent var	37273.05	
S.E. of regression	19239.62	Akaike info criterion	22.56739	
Sum squared resid	2.74E+13	Schwarz criterion	22.56788	
Log likelihood	-835169.8	F-statistic	67925.97	
Durbin-Watson stat	0.435885	Prob(F-statistic)	0.000000	

**Peak**

Dependent Variable: TARGET

Method: Least Squares

Date: 07/24/09 Time: 14:04

Sample(adjusted): 15 74438 IF PEAK=1

Included observations: 37071

Excluded observations: 105 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-8939.191	227.3709	-39.31545	0.0000
SPNIRP	517.0926	4.336337	119.2464	0.0000
SPNIRP_TQEI	-0.776699	0.008570	-90.63216	0.0000
SPNIRP_TQEI*SHO	-0.453252	0.013767	-32.92255	0.0000
RT				
R-squared	0.746078	Mean dependent var	17606.95	
Adjusted R-squared	0.746058	S.D. dependent var	44993.23	
S.E. of regression	22673.29	Akaike info criterion	22.89587	
Sum squared resid	1.91E+13	Schwarz criterion	22.89679	
Log likelihood	-424382.4	F-statistic	36303.70	
Durbin-Watson stat	0.434265	Prob(F-statistic)	0.000000	

## Trough

Dependent Variable: TARGET

Method: Least Squares

Date: 07/24/09 Time: 14:07

Sample(adjusted): 1 74448 IF TROUGH=1

Included observations: 36945

Excluded observations: 255 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-8524.775	161.4003	-52.81760	0.0000
SPNIRP	588.1527	4.714265	124.7602	0.0000
SPNIRP_TQEI	-1.054629	0.007551	-139.6691	0.0000
SPNIRP_TQEI*SHO	-0.376995	0.016632	-22.66701	0.0000
RT				
R-squared	0.685250	Mean dependent var	5636.703	
Adjusted R-squared	0.685225	S.D. dependent var	26082.07	
S.E. of regression	14633.30	Akaike info criterion	22.02010	
Sum squared resid	7.91E+12	Schwarz criterion	22.02102	
Log likelihood	-406762.2	F-statistic	26808.45	
Durbin-Watson stat	0.401608	Prob(F-statistic)	0.000000	

## BST

Dependent Variable: TARGET

Method: Least Squares

Date: 07/24/09 Time: 13:39

Sample(adjusted): 1 74448 IF BST=1

Included observations: 45205

Excluded observations: 347 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-4236.424	143.4224	-29.53808	0.0000
SPNIRP	459.0682	3.397903	135.1034	0.0000
SPNIRP_TQEI	-0.948597	0.007043	-134.6882	0.0000
SPNIRP_TQEI*SHO	-0.288326	0.012083	-23.86236	0.0000
RT				
R-squared	0.739005	Mean dependent var	11531.02	
Adjusted R-squared	0.738988	S.D. dependent var	32458.35	
S.E. of regression	16582.77	Akaike info criterion	22.27020	
Sum squared resid	1.24E+13	Schwarz criterion	22.27098	
Log likelihood	-503358.3	F-statistic	42662.06	
Durbin-Watson stat	0.422204	Prob(F-statistic)	0.000000	

## GMT

Dependent Variable: TARGET

Method: Least Squares

Date: 07/24/09 Time: 13:31

Sample(adjusted): 10181 69988 IF GMT=1

Included observations: 28811 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-15802.23	270.3964	-58.44098	0.0000
SPNIRP	672.0716	5.786339	116.1480	0.0000
SPNIRP_TQEI	-0.806104	0.009689	-83.19730	0.0000
SPNIRP_TQEI*SHO	-0.367431	0.016645	-22.07394	0.0000
RT				

R-squared	0.742191	Mean dependent var	11790.48
Adjusted R-squared	0.742164	S.D. dependent var	43772.93
S.E. of regression	22226.84	Akaike info criterion	22.85613
Sum squared resid	1.42E+13	Schwarz criterion	22.85728
Log likelihood	-329249.9	F-statistic	27643.53
Durbin-Watson stat	0.482454	Prob(F-statistic)	0.000000

### Summer

Dependent Variable: TARGET  
Method: Least Squares  
Date: 07/24/09 Time: 13:43  
Sample(adjusted): 1 74448 IF SUMMER=1  
Included observations: 39118  
Excluded observations: 338 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-3130.921	146.4398	-21.38025	0.0000
SPNIRP	450.0802	3.405554	132.1606	0.0000
SPNIRP_TQEI	-1.043752	0.008140	-128.2221	0.0000
SPNIRP_TQEI*SHO RT	-0.156935	0.012842	-12.22026	0.0000

  

R-squared	0.764697	Mean dependent var	12097.50
Adjusted R-squared	0.764679	S.D. dependent var	31964.01
S.E. of regression	15505.71	Akaike info criterion	22.13591
Sum squared resid	9.40E+12	Schwarz criterion	22.13678
Log likelihood	-432952.2	F-statistic	42371.41
Durbin-Watson stat	0.428696	Prob(F-statistic)	0.000000

### Winter

Dependent Variable: TARGET  
Method: Least Squares  
Date: 08/18/09 Time: 11:47  
Sample(adjusted): 8785 70128 IF WINTER = 1  
Included observations: 34898 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-14044.71	236.5595	-59.37071	0.0000
SPNIRP	641.2868	5.226635	122.6959	0.0000
SPNIRP*TQEI_MWH	-0.825657	0.008404	-98.24844	0.0000
SPNIRP*TQEI_MWH *SHORT	-0.390926	0.015272	-25.59781	0.0000

  

R-squared	0.726815	Mean dependent var	11110.24
Adjusted R-squared	0.726791	S.D. dependent var	42436.28
S.E. of regression	22181.18	Akaike info criterion	22.85199
Sum squared resid	1.72E+13	Schwarz criterion	22.85296
Log likelihood	-398740.4	F-statistic	30945.39
Durbin-Watson stat	0.476599	Prob(F-statistic)	0.000000

### Quarter 1

Dependent Variable: TARGET  
Method: Least Squares  
Date: 07/24/09 Time: 13:53  
Sample(adjusted): 13203 70128 IF Q1=1  
Included observations: 17255 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-10999.76	313.6233	-35.07315	0.0000
SPNIRP	523.1905	7.122838	73.45253	0.0000
SPNIRP_TQEI	-0.826353	0.011935	-69.23841	0.0000
SPNIRP_TQEI*SHO	-0.500153	0.019654	-25.44799	0.0000
RT				
R-squared	0.769052	Mean dependent var		10325.75
Adjusted R-squared	0.769012	S.D. dependent var		37748.17
S.E. of regression	18142.23	Akaike info criterion		22.45010
Sum squared resid	5.68E+12	Schwarz criterion		22.45190
Log likelihood	-193684.3	F-statistic		19148.51
Durbin-Watson stat	0.469560	Prob(F-statistic)		0.000000

### Quarter 2

Dependent Variable: TARGET  
Method: Least Squares  
Date: 07/24/09 Time: 13:55  
Sample(adjusted): 1 74448 IF Q2=1  
Included observations: 21536  
Excluded observations: 256 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	168.7818	195.2728	0.864339	0.3874
SPNIRP	352.8483	4.903857	71.95322	0.0000
SPNIRP_TQEI	-1.091871	0.011022	-99.06245	0.0000
SPNIRP_TQEI*SHO	-0.289158	0.019031	-15.19375	0.0000
RT				
R-squared	0.736645	Mean dependent var		10276.61
Adjusted R-squared	0.736608	S.D. dependent var		27119.45
S.E. of regression	13918.16	Akaike info criterion		21.91996
Sum squared resid	4.17E+12	Schwarz criterion		21.92144
Log likelihood	-236030.2	F-statistic		20076.14
Durbin-Watson stat	0.380597	Prob(F-statistic)		0.000000

### Quarter 3

Dependent Variable: TARGET  
Method: Least Squares  
Date: 07/24/09 Time: 13:56  
Sample(adjusted): 4369 61392 IF Q3=1  
Included observations: 17582 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-5389.614	224.7280	-23.98284	0.0000
SPNIRP	506.1252	4.811987	105.1801	0.0000
SPNIRP_TQEI	-0.991975	0.011973	-82.85109	0.0000
SPNIRP_TQEI*SHO	-0.112827	0.017985	-6.273544	0.0000
RT				
R-squared	0.789787	Mean dependent var		14327.89
Adjusted R-squared	0.789751	S.D. dependent var		36923.26
S.E. of regression	16930.38	Akaike info criterion		22.31183
Sum squared resid	5.04E+12	Schwarz criterion		22.31360
Log likelihood	-196139.3	F-statistic		22013.99
Durbin-Watson stat	0.476367	Prob(F-statistic)		0.000000

## Quarter 4

Dependent Variable: TARGET

Method: Least Squares

Date: 07/24/09 Time: 14:00

Sample(adjusted): 8785 65810 IF Q4=1

Included observations: 17643 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-14497.76	352.8150	-41.09168	0.0000
SPNIRP	704.1211	7.483612	94.08840	0.0000
SPNIRP_TQEI	-0.864204	0.011896	-72.64853	0.0000
SPNIRP_TQEI*SHO	-0.278985	0.022957	-12.15267	0.0000
RT				
R-squared	0.705883	Mean dependent var	11877.48	
Adjusted R-squared	0.705833	S.D. dependent var	46555.30	
S.E. of regression	25250.26	Akaike info criterion	23.11129	
Sum squared resid	1.12E+13	Schwarz criterion	23.11305	
Log likelihood	-203872.2	F-statistic	14111.27	
Durbin-Watson stat	0.492824	Prob(F-statistic)	0.000000	

## Model 2

### Single Model

Dependent Variable: TARGET

Method: Least Squares

Date: 07/27/09 Time: 09:47

Sample(adjusted): 1 74448

Included observations: 74016

Excluded observations: 432 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-5649.467	139.4223	-40.52054	0.0000
SPNIRP	476.6119	3.163369	150.6659	0.0000
TQEI_MWH	-20.13190	0.343324	-58.63821	0.0000
SPNIRP_TQEI	-0.475664	0.008977	-52.98869	0.0000
SPNIRP_TQEI*SHO	-0.636937	0.010892	-58.47763	0.0000
RT				
R-squared	0.745397	Mean dependent var	11632.02	
Adjusted R-squared	0.745383	S.D. dependent var	37273.05	
S.E. of regression	18807.82	Akaike info criterion	22.52200	
Sum squared resid	2.62E+13	Schwarz criterion	22.52262	
Log likelihood	-833489.2	F-statistic	54170.17	
Durbin-Watson stat	0.417935	Prob(F-statistic)	0.000000	

## BST

Dependent Variable: TARGET

Method: Least Squares

Date: 07/24/09 Time: 13:40

Sample(adjusted): 1 74448 IF BST=1

Included observations: 45205

Excluded observations: 347 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-2239.680	147.8991	-15.14330	0.0000

SPNIRP	415.0170	3.481285	119.2137	0.0000
TQEI_MWH	-16.69941	0.385433	-43.32639	0.0000
SPNIRP_TQEI	-0.614445	0.010349	-59.37085	0.0000
SPNIRP_TQEI*SHO	-0.504905	0.012852	-39.28710	0.0000
RT				
R-squared	0.749412	Mean dependent var	11531.02	
Adjusted R-squared	0.749390	S.D. dependent var	32458.35	
S.E. of regression	16248.97	Akaike info criterion	22.22956	
Sum squared resid	1.19E+13	Schwarz criterion	22.23052	
Log likelihood	-502438.6	F-statistic	33793.93	
Durbin-Watson stat	0.414220	Prob(F-statistic)	0.000000	

### GMT

Dependent Variable: TARGET  
Method: Least Squares  
Date: 07/24/09 Time: 13:32  
Sample(adjused): 10181 69988 IF GMT=1  
Included observations: 28811 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-12217.90	277.6037	-44.01204	0.0000
SPNIRP	595.9812	5.935745	100.4054	0.0000
TQEI_MWH	-25.10093	0.621210	-40.40649	0.0000
SPNIRP_TQEI	-0.296615	0.015743	-18.84138	0.0000
SPNIRP_TQEI*SHO	-0.743647	0.018679	-39.81169	0.0000
RT				
R-squared	0.756019	Mean dependent var	11790.48	
Adjusted R-squared	0.755985	S.D. dependent var	43772.93	
S.E. of regression	21622.89	Akaike info criterion	22.80107	
Sum squared resid	1.35E+13	Schwarz criterion	22.80250	
Log likelihood	-328455.8	F-statistic	22315.15	
Durbin-Watson stat	0.451923	Prob(F-statistic)	0.000000	

### Summer

Dependent Variable: TARGET  
Method: Least Squares  
Date: 07/24/09 Time: 13:43  
Sample(adjused): 1 74448 IF SUMMER=1  
Included observations: 39118  
Excluded observations: 338 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-1824.517	149.0159	-12.24377	0.0000
SPNIRP	413.1582	3.517400	117.4613	0.0000
TQEI_MWH	-14.40616	0.413497	-34.83985	0.0000
SPNIRP_TQEI	-0.709749	0.012497	-56.79314	0.0000
SPNIRP_TQEI*SHO	-0.400389	0.014450	-27.70928	0.0000
RT				
R-squared	0.771780	Mean dependent var	12097.50	
Adjusted R-squared	0.771756	S.D. dependent var	31964.01	
S.E. of regression	15270.76	Akaike info criterion	22.10540	
Sum squared resid	9.12E+12	Schwarz criterion	22.10649	
Log likelihood	-432354.4	F-statistic	33067.38	
Durbin-Watson stat	0.419378	Prob(F-statistic)	0.000000	

## Winter

Dependent Variable: TARGET

Method: Least Squares

Date: 07/24/09 Time: 13:46

Sample(adjusted): 8785 70128 IF WINTER=1

Included observations: 34898 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-10326.39	248.0661	-41.62756	0.0000
SPNIRP	569.0639	5.397639	105.4283	0.0000
TQEI_MWH	-22.52435	0.547370	-41.15014	0.0000
SPNIRP_TQEI	-0.401561	0.013175	-30.47982	0.0000
SPNIRP_TQEI*SHO	-0.685829	0.016547	-41.44759	0.0000
RT				
R-squared	0.739459	Mean dependent var	11110.24	
Adjusted R-squared	0.739429	S.D. dependent var	42436.28	
S.E. of regression	21662.10	Akaike info criterion	22.80466	
Sum squared resid	1.64E+13	Schwarz criterion	22.80587	
Log likelihood	-397913.5	F-statistic	24758.00	
Durbin-Watson stat	0.446994	Prob(F-statistic)	0.000000	

## Quarter 1

Dependent Variable: TARGET

Method: Least Squares

Date: 07/24/09 Time: 13:53

Sample(adjusted): 13203 70128 IF Q1=1

Included observations: 17255 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-8838.709	314.0198	-28.14698	0.0000
SPNIRP	465.4033	7.203461	64.60829	0.0000
TQEI_MWH	-21.57133	0.716549	-30.10447	0.0000
SPNIRP_TQEI	-0.339606	0.019919	-17.04943	0.0000
SPNIRP_TQEI*SHO	-0.848525	0.022381	-37.91193	0.0000
RT				
R-squared	0.780580	Mean dependent var	10325.75	
Adjusted R-squared	0.780529	S.D. dependent var	37748.17	
S.E. of regression	17684.15	Akaike info criterion	22.39902	
Sum squared resid	5.39E+12	Schwarz criterion	22.40126	
Log likelihood	-193242.5	F-statistic	15341.59	
Durbin-Watson stat	0.453538	Prob(F-statistic)	0.000000	

## Quarter 2

Dependent Variable: TARGET

Method: Least Squares

Date: 07/24/09 Time: 13:55

Sample(adjusted): 1 74448 IF Q2=1

Included observations: 21536

Excluded observations: 256 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	897.6487	199.8512	4.491584	0.0000
SPNIRP	328.1706	5.131894	63.94728	0.0000
TQEI_MWH	-8.661112	0.560575	-15.45041	0.0000
SPNIRP_TQEI	-0.854930	0.018850	-45.35336	0.0000

SPNIRP_TQEI*SHO RT	-0.443041	0.021388	-20.71472	0.0000
R-squared	0.739533	Mean dependent var	10276.61	
Adjusted R-squared	0.739485	S.D. dependent var	27119.45	
S.E. of regression	13841.96	Akaike info criterion	21.90903	
Sum squared resid	4.13E+12	Schwarz criterion	21.91088	
Log likelihood	-235911.4	F-statistic	15283.02	
Durbin-Watson stat	0.375197	Prob(F-statistic)	0.000000	

### Quarter 3

Dependent Variable: TARGET  
Method: Least Squares  
Date: 07/24/09 Time: 13:57  
Sample(adjusted): 4369 61392 IF Q3=1  
Included observations: 17582 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-3591.979	228.5851	-15.71397	0.0000
SPNIRP	465.7416	4.913301	94.79198	0.0000
TQEI_MWH	-19.00269	0.666651	-28.50471	0.0000
SPNIRP_TQEI	-0.629466	0.017285	-36.41747	0.0000
SPNIRP_TQEI*SHO RT	-0.378954	0.019908	-19.03510	0.0000
R-squared	0.799075	Mean dependent var	14327.89	
Adjusted R-squared	0.799029	S.D. dependent var	36923.26	
S.E. of regression	16552.61	Akaike info criterion	22.26676	
Sum squared resid	4.82E+12	Schwarz criterion	22.26897	
Log likelihood	-195742.1	F-statistic	17475.86	
Durbin-Watson stat	0.468687	Prob(F-statistic)	0.000000	

### Quarter 4

Dependent Variable: TARGET  
Method: Least Squares  
Date: 07/24/09 Time: 13:59  
Sample(adjusted): 8785 65810 IF Q4=1  
Included observations: 17643 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-9606.212	383.2670	-25.06402	0.0000
SPNIRP	622.3633	7.828854	79.49609	0.0000
TQEI_MWH	-24.14844	0.828060	-29.16268	0.0000
SPNIRP_TQEI	-0.451776	0.018303	-24.68275	0.0000
SPNIRP_TQEI*SHO RT	-0.567691	0.024511	-23.16041	0.0000
R-squared	0.719413	Mean dependent var	11877.48	
Adjusted R-squared	0.719349	S.D. dependent var	46555.30	
S.E. of regression	24663.37	Akaike info criterion	23.06431	
Sum squared resid	1.07E+13	Schwarz criterion	23.06651	
Log likelihood	-203456.8	F-statistic	11305.75	
Durbin-Watson stat	0.456365	Prob(F-statistic)	0.000000	

### **Model 3**

#### Single Model

Dependent Variable: TARGET

Method: Least Squares

Date: 07/27/09 Time: 09:54

Sample(adjusted): 1 74448

Included observations: 74016

Excluded observations: 432 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-8762.882	207.4390	-42.24317	0.0000
SPNIRP	512.7939	4.602667	111.4123	0.0000
SPNIRP*SHORT	15.79394	4.347750	3.632670	0.0003
TQEI_MWH	-11.30408	0.543149	-20.81211	0.0000
TQEI_MWH*SHORT	-22.11370	1.086154	-20.35964	0.0000
SPNIRP_TQEI	-0.604308	0.012197	-49.54431	0.0000
SPNIRP_TQEI*SHO RT	-0.356973	0.017287	-20.64983	0.0000
R-squared	0.747115	Mean dependent var	11632.02	
Adjusted R-squared	0.747094	S.D. dependent var	37273.05	
S.E. of regression	18744.52	Akaike info criterion	22.51529	
Sum squared resid	2.60E+13	Schwarz criterion	22.51616	
Log likelihood	-833238.7	F-statistic	36441.55	
Durbin-Watson stat	0.415844	Prob(F-statistic)	0.000000	

#### **Model 4**

##### Single Model

Dependent Variable: TARGET

Method: Least Squares

Date: 08/18/09 Time: 09:26

Sample(adjusted): 1 74448

Included observations: 74016

Excluded observations: 432 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-4674.458	249.0735	-18.76739	0.0000
SPNIRP	182.6774	5.096154	35.84614	0.0000
TQAO_MWH	20.71453	0.429292	48.25280	0.0000
TQAB_MWH	18.34840	0.421610	43.51980	0.0000
SPNIRP*TQAO_MW H	1.322743	0.007128	185.5699	0.0000
SPNIRP*TQAB_MW H	0.240857	0.008074	29.82974	0.0000
R-squared	0.778056	Mean dependent var	11632.02	
Adjusted R-squared	0.778041	S.D. dependent var	37273.05	
S.E. of regression	17560.28	Akaike info criterion	22.38475	
Sum squared resid	2.28E+13	Schwarz criterion	22.38549	
Log likelihood	-828408.7	F-statistic	51890.50	
Durbin-Watson stat	0.373639	Prob(F-statistic)	0.000000	

##### BST

Dependent Variable: TARGET

Method: Least Squares

Date: 08/18/09 Time: 09:28

Sample(adjusted): 1 74448 IF BST = 1

Included observations: 45205 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-2655.317	276.6301	-9.598800	0.0000
SPNIRP	130.3677	6.109524	21.33844	0.0000
TQAO_MWH	16.79448	0.471133	35.64702	0.0000
TQAB_MWH	13.70365	0.470532	29.12378	0.0000
SPNIRP*TQAO_MW H	1.377206	0.008758	157.2564	0.0000
SPNIRP*TQAB_MW H	0.361995	0.009748	37.13529	0.0000
R-squared	0.788884	Mean dependent var	11531.02	
Adjusted R-squared	0.788861	S.D. dependent var	32458.35	
S.E. of regression	14914.58	Akaike info criterion	22.05820	
Sum squared resid	1.01E+13	Schwarz criterion	22.05936	
Log likelihood	-498564.4	F-statistic	33779.32	
Durbin-Watson stat	0.376980	Prob(F-statistic)	0.000000	

## GMT

Dependent Variable: TARGET

Method: Least Squares

Date: 08/18/09 Time: 09:29

Sample(adjusted): 10181 69988 IF GMT = 1

Included observations: 28811 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-9493.233	462.6743	-20.51818	0.0000
SPNIRP	303.0658	8.704364	34.81769	0.0000
TQAO_MWH	28.90774	0.850438	33.99157	0.0000
TQAB_MWH	23.23812	0.772721	30.07311	0.0000
SPNIRP*TQAO_MW H	1.193422	0.011769	101.4070	0.0000
SPNIRP*TQAB_MW H	0.125880	0.013546	9.293025	0.0000
R-squared	0.783083	Mean dependent var	11790.48	
Adjusted R-squared	0.783046	S.D. dependent var	43772.93	
S.E. of regression	20388.72	Akaike info criterion	22.68356	
Sum squared resid	1.20E+13	Schwarz criterion	22.68528	
Log likelihood	-326762.0	F-statistic	20797.57	
Durbin-Watson stat	0.398273	Prob(F-statistic)	0.000000	

## Summer

Dependent Variable: TARGET

Method: Least Squares

Date: 08/18/09 Time: 09:29

Sample(adjusted): 1 74448 IF SUMMER = 1

Included observations: 39118 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-4135.926	282.9342	-14.61798	0.0000
SPNIRP	174.4442	6.401046	27.25245	0.0000
TQAO_MWH	17.48576	0.470265	37.18278	0.0000
TQAB_MWH	10.12484	0.495335	20.44040	0.0000
SPNIRP*TQAO_MW H	1.335623	0.008868	150.6065	0.0000
SPNIRP*TQAB_MW H	0.468659	0.010888	43.04420	0.0000

H

R-squared	0.807691	Mean dependent var	12097.50
Adjusted R-squared	0.807666	S.D. dependent var	31964.01
S.E. of regression	14018.09	Akaike info criterion	21.93424
Sum squared resid	7.69E+12	Schwarz criterion	21.93555
Log likelihood	-429005.8	F-statistic	32853.81
Durbin-Watson stat	0.379865	Prob(F-statistic)	0.000000

Winter

Dependent Variable: TARGET  
 Method: Least Squares  
 Date: 08/18/09 Time: 09:29  
 Sample(adjusted): 8785 70128 IF WINTER = 1  
 Included observations: 34898 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-7398.856	416.5847	-17.76075	0.0000
SPNIRP	253.2226	7.901419	32.04774	0.0000
TQAO_MWH	26.46779	0.763950	34.64595	0.0000
TQAB_MWH	22.02500	0.686417	32.08690	0.0000
SPNIRP*TQAO_MW	1.279021	0.010933	116.9822	0.0000
H				
SPNIRP*TQAB_MW	0.165160	0.011960	13.80928	0.0000
H				
R-squared	0.771685	Mean dependent var	11110.24	
Adjusted R-squared	0.771653	S.D. dependent var	42436.28	
S.E. of regression	20278.47	Akaike info criterion	22.67268	
Sum squared resid	1.43E+13	Schwarz criterion	22.67413	
Log likelihood	-395609.6	F-statistic	23586.45	
Durbin-Watson stat	0.397454	Prob(F-statistic)	0.000000	

Quarter 1

Dependent Variable: TARGET  
 Method: Least Squares  
 Date: 08/18/09 Time: 09:30  
 Sample(adjusted): 13203 70128 IF Q1= 1  
 Included observations: 17255 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-6671.932	480.2986	-13.89122	0.0000
SPNIRP	250.9062	9.434959	26.59325	0.0000
TQAO_MWH	26.97365	0.832565	32.39825	0.0000
TQAB_MWH	16.92852	0.853371	19.83724	0.0000
SPNIRP*TQAO_MW	1.186122	0.012115	97.90639	0.0000
H				
SPNIRP*TQAB_MW	0.332138	0.015804	21.01556	0.0000
H				
R-squared	0.809721	Mean dependent var	10325.75	
Adjusted R-squared	0.809665	S.D. dependent var	37748.17	
S.E. of regression	16468.52	Akaike info criterion	22.25664	
Sum squared resid	4.68E+12	Schwarz criterion	22.25933	
Log likelihood	-192013.1	F-statistic	14680.38	
Durbin-Watson stat	0.386284	Prob(F-statistic)	0.000000	

## Quarter 2

Dependent Variable: TARGET

Method: Least Squares

Date: 08/18/09 Time: 09:30

Sample(adjusted): 1 74448 IF Q2= 1

Included observations: 21536 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-2747.789	350.9832	-7.828834	0.0000
SPNIRP	149.5796	8.462978	17.67459	0.0000
TQAO_MWH	16.98414	0.581135	29.22578	0.0000
TQAB_MWH	8.104198	0.639287	12.67693	0.0000
SPNIRP*TQAO_MW H	1.395863	0.012800	109.0514	0.0000
SPNIRP*TQAB_MW H	0.578303	0.016088	35.94545	0.0000
R-squared	0.799389	Mean dependent var	10276.61	
Adjusted R-squared	0.799342	S.D. dependent var	27119.45	
S.E. of regression	12148.11	Akaike info criterion	21.64801	
Sum squared resid	3.18E+12	Schwarz criterion	21.65024	
Log likelihood	-233099.8	F-statistic	17158.42	
Durbin-Watson stat	0.364247	Prob(F-statistic)	0.000000	

## Quarter 3

Dependent Variable: TARGET

Method: Least Squares

Date: 08/18/09 Time: 09:31

Sample(adjusted): 4369 61392 IF Q3= 1

Included observations: 17582 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-5766.871	459.2641	-12.55676	0.0000
SPNIRP	208.0460	9.739031	21.36209	0.0000
TQAO_MWH	16.63978	0.801758	20.75413	0.0000
TQAB_MWH	9.186845	0.823021	11.16234	0.0000
SPNIRP*TQAO_MW H	1.298050	0.013050	99.47037	0.0000
SPNIRP*TQAB_MW H	0.444784	0.015731	28.27485	0.0000
R-squared	0.814428	Mean dependent var	14327.89	
Adjusted R-squared	0.814375	S.D. dependent var	36923.26	
S.E. of regression	15908.09	Akaike info criterion	22.18738	
Sum squared resid	4.45E+12	Schwarz criterion	22.19004	
Log likelihood	-195043.3	F-statistic	15427.32	
Durbin-Watson stat	0.396093	Prob(F-statistic)	0.000000	

## Quarter 4

Dependent Variable: TARGET

Method: Least Squares

Date: 08/18/09 Time: 09:32

Sample(adjusted): 8785 65810 IF Q4= 1

Included observations: 17643 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-2977.496	511.4193	-5.822026	0.0000

SPNIRP	121.3886	8.667427	14.00515	0.0000
TQAO_MWH	18.34545	1.291319	14.20676	0.0000
TQAB_MWH	27.66722	0.571355	48.42389	0.0000
SPNIRP*TQAO_MW H	1.586619	0.018903	83.93541	0.0000

R-squared	0.762892	Mean dependent var	11877.48
Adjusted R-squared	0.762839	S.D. dependent var	46555.30
S.E. of regression	22672.07	Akaike info criterion	22.89594
Sum squared resid	9.07E+12	Schwarz criterion	22.89814
Log likelihood	-201971.5	F-statistic	14187.54
Durbin-Watson stat	0.457646	Prob(F-statistic)	0.000000

## Model 5

### Single Model

Dependent Variable: TARGET

Method: Least Squares

Date: 07/24/09 Time: 13:00

Sample(adjusted): 1 74448

Included observations: 74016

Excluded observations: 432 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-590.2298	219.3163	-2.691227	0.0071
SPNIRP	33.44970	4.558502	7.337872	0.0000
TQAO_MWH	33.11431	0.763445	43.37485	0.0000
TQAB_MWH	30.31706	0.803271	37.74200	0.0000
TQEI_MWH	8.717070	0.715894	12.17648	0.0000
SPNIRP_TQAO	-0.051278	0.014910	-3.439103	0.0006
SPNIRP_TQAB	-1.198070	0.015824	-75.71079	0.0000
SPNIRP_TQEI	-1.390945	0.013818	-100.6585	0.0000
R-squared	0.832343	Mean dependent var	11632.02	
Adjusted R-squared	0.832327	S.D. dependent var	37273.05	
S.E. of regression	15262.54	Akaike info criterion	22.10430	
Sum squared resid	1.72E+13	Schwarz criterion	22.10529	
Log likelihood	-818027.9	F-statistic	52487.97	
Durbin-Watson stat	0.491410	Prob(F-statistic)	0.000000	

### BST

Dependent Variable: TARGET

Method: Least Squares

Date: 07/24/09 Time: 13:02

Sample(adjusted): 1 74448 IF BST=1

Included observations: 45205

Excluded observations: 347 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-796.1463	243.7863	-3.265755	0.0011
SPNIRP	39.82697	5.420646	7.347273	0.0000
TQAO_MWH	29.63644	0.791496	37.44356	0.0000
TQAB_MWH	23.45845	0.853801	27.47532	0.0000
TQEI_MWH	5.997340	0.751633	7.979085	0.0000
SPNIRP_TQAO	0.049712	0.018127	2.742402	0.0061
SPNIRP_TQAB	-0.963925	0.018946	-50.87663	0.0000
SPNIRP_TQEI	-1.269502	0.016378	-77.51179	0.0000

R-squared	0.838509	Mean dependent var	11531.02
Adjusted R-squared	0.838484	S.D. dependent var	32458.35
S.E. of regression	13044.70	Akaike info criterion	21.79033
Sum squared resid	7.69E+12	Schwarz criterion	21.79187
Log likelihood	-492507.9	F-statistic	33525.19
Durbin-Watson stat	0.492011	Prob(F-statistic)	0.000000

### GMT

Dependent Variable: TARGET

Method: Least Squares

Date: 07/24/09 Time: 13:03

Sample(adjused): 10181 69988 IF GMT=1

Included observations: 28811 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-2368.668	413.3892	-5.729875	0.0000
SPNIRP	81.53130	8.057393	10.11882	0.0000
TQAO_MWH	36.11556	1.800343	20.06038	0.0000
TQAB_MWH	32.74245	1.720674	19.02885	0.0000
TQEI_MWH	7.308652	1.586868	4.605709	0.0000
SPNIRP_TQAO	-0.081365	0.027671	-2.940405	0.0033
SPNIRP_TQAB	-1.284341	0.029006	-44.27833	0.0000
SPNIRP_TQEI	-1.383506	0.026042	-53.12653	0.0000

R-squared	0.834530	Mean dependent var	11790.48
Adjusted R-squared	0.834490	S.D. dependent var	43772.93
S.E. of regression	17808.10	Akaike info criterion	22.41297
Sum squared resid	9.13E+12	Schwarz criterion	22.41527
Log likelihood	-322862.1	F-statistic	20752.16
Durbin-Watson stat	0.511566	Prob(F-statistic)	0.000000

### Summer

Dependent Variable: TARGET

Method: Least Squares

Date: 07/24/09 Time: 13:04

Sample(adjused): 1 74448 IF SUMMER=1

Included observations: 39118

Excluded observations: 338 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-2061.498	249.9396	-8.247985	0.0000
SPNIRP	77.17086	5.697402	13.54492	0.0000
TQAO_MWH	30.99031	0.796860	38.89052	0.0000
TQAB_MWH	20.64287	0.889500	23.20727	0.0000
TQEI_MWH	6.233551	0.766983	8.127368	0.0000
SPNIRP_TQAO	0.014035	0.018955	0.740451	0.4590
SPNIRP_TQAB	-0.869960	0.020512	-42.41143	0.0000
SPNIRP_TQEI	-1.265748	0.017247	-73.38983	0.0000

R-squared	0.853050	Mean dependent var	12097.50
Adjusted R-squared	0.853024	S.D. dependent var	31964.01
S.E. of regression	12254.18	Akaike info criterion	21.66533
Sum squared resid	5.87E+12	Schwarz criterion	21.66708
Log likelihood	-423744.1	F-statistic	32433.65
Durbin-Watson stat	0.502248	Prob(F-statistic)	0.000000

### Winter

Dependent Variable: TARGET  
Method: Least Squares  
Date: 07/24/09 Time: 13:05  
Sample(adjusted): 8785 70128 IF WINTER=1  
Included observations: 34898 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-1312.013	368.9759	-3.555824	0.0004
SPNIRP	58.97676	7.192534	8.199719	0.0000
TQAO_MWH	32.14749	1.561739	20.58442	0.0000
TQAB_MWH	30.90370	1.481027	20.86640	0.0000
TQEI_MWH	6.065892	1.367456	4.435896	0.0000
SPNIRP_TQAO	-0.001829	0.024697	-0.074041	0.9410
SPNIRP_TQAB	-1.236518	0.025465	-48.55813	0.0000
SPNIRP_TQEI	-1.361493	0.022882	-59.50012	0.0000
R-squared	0.826762	Mean dependent var	11110.24	
Adjusted R-squared	0.826727	S.D. dependent var	42436.28	
S.E. of regression	17664.56	Akaike info criterion	22.39674	
Sum squared resid	1.09E+13	Schwarz criterion	22.39868	
Log likelihood	-390792.7	F-statistic	23786.99	
Durbin-Watson stat	0.512651	Prob(F-statistic)	0.000000	

### Quarter 1

Dependent Variable: TARGET  
Method: Least Squares  
Date: 07/24/09 Time: 14:21  
Sample(adjusted): 13203 70128 IF Q1=1  
Included observations: 17255 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-252.6087	419.9776	-0.601481	0.5475
SPNIRP	46.96299	8.484233	5.535325	0.0000
TQAO_MWH	27.42067	0.991907	27.64441	0.0000
TQAB_MWH	24.05954	1.157334	20.78876	0.0000
TQEI_MWH	4.221909	0.968421	4.359580	0.0000
SPNIRP_TQAB	-1.035390	0.015641	-66.19679	0.0000
SPNIRP_TQEI	-1.338688	0.010331	-129.5838	0.0000
R-squared	0.862383	Mean dependent var	10325.75	
Adjusted R-squared	0.862335	S.D. dependent var	37748.17	
S.E. of regression	14005.77	Akaike info criterion	21.93273	
Sum squared resid	3.38E+12	Schwarz criterion	21.93588	
Log likelihood	-189217.6	F-statistic	18014.27	
Durbin-Watson stat	0.521095	Prob(F-statistic)	0.000000	

### Quarter 2

Dependent Variable: TARGET  
Method: Least Squares  
Date: 07/24/09 Time: 14:22  
Sample(adjusted): 1 74448 IF Q2=1  
Included observations: 21536  
Excluded observations: 256 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	563.2537	159.8454	3.523740	0.0004

TQAO_MWH	37.66626	1.001609	37.60573	0.0000
TQAB_MWH	31.08395	1.056349	29.42583	0.0000
TQEI_MWH	19.60689	1.013955	19.33704	0.0000
SPNIRP_TQAO	-0.100882	0.027463	-3.673350	0.0002
SPNIRP_TQAB	-1.085193	0.026688	-40.66204	0.0000
SPNIRP_TQEI	-1.565139	0.026167	-59.81423	0.0000
R-squared	0.845472	Mean dependent var	10276.61	
Adjusted R-squared	0.845429	S.D. dependent var	27119.45	
S.E. of regression	10662.15	Akaike info criterion	21.38711	
Sum squared resid	2.45E+12	Schwarz criterion	21.38971	
Log likelihood	-230289.4	F-statistic	19632.04	
Durbin-Watson stat	0.466254	Prob(F-statistic)	0.000000	

### Quarter 3

Dependent Variable: TARGET

Method: Least Squares

Date: 07/24/09 Time: 13:06

Sample(adj): 4369 61392 IF Q3=1

Included observations: 17582 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-3549.742	399.2137	-8.891833	0.0000
SPNIRP	127.0619	8.513836	14.92416	0.0000
TQAO_MWH	24.33885	1.326844	18.34341	0.0000
TQAB_MWH	12.48879	1.405696	8.884421	0.0000
TQEI_MWH	-3.934165	1.229611	-3.199519	0.0014
SPNIRP_TQAO	0.062814	0.027552	2.279860	0.0226
SPNIRP_TQAB	-0.761245	0.028698	-26.52615	0.0000
SPNIRP_TQEI	-1.127775	0.024014	-46.96322	0.0000
R-squared	0.861024	Mean dependent var	14327.89	
Adjusted R-squared	0.860969	S.D. dependent var	36923.26	
S.E. of regression	13767.55	Akaike info criterion	21.89847	
Sum squared resid	3.33E+12	Schwarz criterion	21.90201	
Log likelihood	-192501.5	F-statistic	15554.20	
Durbin-Watson stat	0.539846	Prob(F-statistic)	0.000000	

### Quarter 4

Dependent Variable: TARGET

Method: Least Squares

Date: 07/24/09 Time: 14:23

Sample(adj): 8785 65810 IF Q4=1

Included observations: 17643 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1273.989	606.9467	2.099014	0.0358
SPNIRP	-23.23622	11.48868	-2.022532	0.0431
TQAO_MWH	22.77806	1.157028	19.68670	0.0000
TQAB_MWH	28.97948	0.923629	31.37567	0.0000
SPNIRP_TQAO	0.320903	0.024671	13.00738	0.0000
SPNIRP_TQAB	-1.252107	0.023569	-53.12544	0.0000
SPNIRP_TQEI	-1.242064	0.017448	-71.18615	0.0000
R-squared	0.815817	Mean dependent var	11877.48	
Adjusted R-squared	0.815754	S.D. dependent var	46555.30	
S.E. of regression	19983.34	Akaike info criterion	22.64358	
Sum squared resid	7.04E+12	Schwarz criterion	22.64667	
Log likelihood	-199743.4	F-statistic	13019.41	

Durbin-Watson stat 0.560730 Prob(F-statistic) 0.000000

## **EFA BLOCK CUMMULATIVE DATA**

### **EFA BLOCK 1**

Dependent Variable: TARGET

Method: Least Squares

Date: 08/18/09 Time: 10:22

Sample(adjusted): 6 9312 IF EFA1=1

Included observations: 1552 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
SPNIRP	205.6773	16.18623	12.70693	0.0000
SP_TQEI_LONG	-1.097102	0.031046	-35.33740	0.0000
SP_TQEI_SHORT	-1.729843	0.069207	-24.99520	0.0000
C	2149.586	3654.546	0.588195	0.5565
R-squared	0.719972	Mean dependent var	12143.46	
Adjusted R-squared	0.719429	S.D. dependent var	98947.98	
S.E. of regression	52411.67	Akaike info criterion	24.57422	
Sum squared resid	4.25E+12	Schwarz criterion	24.58800	
Log likelihood	-19065.59	F-statistic	1326.674	
Prob(F-statistic)	0.000000			

### **EFA BLOCK 2**

Dependent Variable: TARGET

Method: Least Squares

Date: 08/18/09 Time: 10:27

Sample(adjusted): 5 9311 IF EFA2=1

Included observations: 1549 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
SPNIRP	212.9582	21.87663	9.734508	0.0000
SP_TQEI_LONG	-1.112084	0.033320	-33.37537	0.0000
SP_TQEI_SHORT	-1.617602	0.115386	-14.01901	0.0000
C	13421.66	4675.683	2.870523	0.0042
R-squared	0.606410	Mean dependent var	-4790.605	
Adjusted R-squared	0.605646	S.D. dependent var	105327.4	
S.E. of regression	66143.14	Akaike info criterion	25.03961	
Sum squared resid	6.76E+12	Schwarz criterion	25.05341	
Log likelihood	-19389.18	F-statistic	793.4677	
Prob(F-statistic)	0.000000			

### **EFA BLOCK 3**

Dependent Variable: TARGET

Method: Least Squares

Date: 08/18/09 Time: 10:28

Sample(adjusted): 4 9310 IF EFA3=1

Included observations: 1549 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
SPNIRP	367.6967	14.36683	25.59345	0.0000
SP_TQEI_LONG	-0.987441	0.032167	-30.69738	0.0000
SP_TQEI_SHORT	-1.652540	0.038197	-43.26378	0.0000

C	-26596.21	4862.562	-5.469588	0.0000
R-squared	0.844051	Mean dependent var	97339.01	
Adjusted R-squared	0.843748	S.D. dependent var	216796.1	
S.E. of regression	85696.68	Akaike info criterion	25.55759	
Sum squared resid	1.13E+13	Schwarz criterion	25.57140	
Log likelihood	-19790.36	F-statistic	2787.362	
Prob(F-statistic)	0.000000			

#### EFA BLOCK 4

Dependent Variable: TARGET  
Method: Least Squares  
Date: 08/18/09 Time: 10:28  
Sample(adjusted): 3 9309 IF EFA4=1  
Included observations: 1549 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
SPNIRP	346.0678	12.59256	27.48194	0.0000
SP_TQEI_LONG	-1.002844	0.032270	-31.07653	0.0000
SP_TQEI_SHORT	-1.355965	0.025101	-54.02103	0.0000
C	-23032.40	5199.189	-4.429999	0.0000
R-squared	0.880101	Mean dependent var	118013.6	
Adjusted R-squared	0.879868	S.D. dependent var	289968.9	
S.E. of regression	100503.4	Akaike info criterion	25.87635	
Sum squared resid	1.56E+13	Schwarz criterion	25.89015	
Log likelihood	-20037.23	F-statistic	3780.280	
Prob(F-statistic)	0.000000			

#### EFA BLOCK 5

Dependent Variable: TARGET  
Method: Least Squares  
Date: 08/18/09 Time: 10:28  
Sample(adjusted): 2 9308 IF EFA5=1  
Included observations: 1550 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
SPNIRP	698.3552	22.04808	31.67420	0.0000
SP_TQEI_LONG	-0.752118	0.044938	-16.73665	0.0000
SP_TQEI_SHORT	-1.293591	0.044143	-29.30477	0.0000
C	-119991.0	8576.588	-13.99053	0.0000
R-squared	0.810103	Mean dependent var	206545.9	
Adjusted R-squared	0.809734	S.D. dependent var	403234.0	
S.E. of regression	175888.6	Akaike info criterion	26.99567	
Sum squared resid	4.78E+13	Schwarz criterion	27.00946	
Log likelihood	-20917.64	F-statistic	2198.413	
Prob(F-statistic)	0.000000			

#### EFA BLOCK 6

Dependent Variable: TARGET  
Method: Least Squares  
Date: 08/18/09 Time: 10:28  
Sample(adjusted): 1 9307 IF EFA6=1  
Included observations: 1549 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
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SPNIRP	636.6439	20.07734	31.70958	0.0000
SP_TQEI_LONG	-1.079742	0.034996	-30.85298	0.0000
SP_TQEI_SHORT	-1.599886	0.059733	-26.78375	0.0000
C	-54572.93	5610.962	-9.726127	0.0000
R-squared	0.778223	Mean dependent var	127639.4	
Adjusted R-squared	0.777793	S.D. dependent var	216708.0	
S.E. of regression	102153.7	Akaike info criterion	25.90892	
Sum squared resid	1.61E+13	Schwarz criterion	25.92273	
Log likelihood	-20062.46	F-statistic	1807.155	
Prob(F-statistic)	0.000000			

## **PEAK/TROUGH CUMMULATIVE DATA**

### PEAK

Dependent Variable: TARGET  
Method: Least Squares  
Date: 08/18/09 Time: 10:30  
Sample(adjusted): 2 3104 IF PEAK=1  
Included observations: 1550  
Excluded observations: 1 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
SPNIRP	470.8566	14.26705	33.00307	0.0000
SP_TQEI_LONG	-0.917230	0.034778	-26.37351	0.0000
SP_TQEI_SHORT	-1.454474	0.032491	-44.76565	0.0000
C	-156587.0	15396.15	-10.17053	0.0000
R-squared	0.872569	Mean dependent var	421541.6	
Adjusted R-squared	0.872322	S.D. dependent var	781235.9	
S.E. of regression	279152.0	Akaike info criterion	27.91948	
Sum squared resid	1.20E+14	Schwarz criterion	27.93327	
Log likelihood	-21633.60	F-statistic	3528.684	
Prob(F-statistic)	0.000000			

### TROUGH

Dependent Variable: TARGET  
Method: Least Squares  
Date: 08/18/09 Time: 10:30  
Sample(adjusted): 1 3103 IF TROUGH=1  
Included observations: 1552 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
SPNIRP	390.1907	16.19970	24.08628	0.0000
SP_TQEI_LONG	-1.045793	0.030512	-34.27457	0.0000
SP_TQEI_SHORT	-1.891489	0.070610	-26.78796	0.0000
C	-59930.95	10303.10	-5.816789	0.0000
R-squared	0.772741	Mean dependent var	134787.0	
Adjusted R-squared	0.772300	S.D. dependent var	334391.2	
S.E. of regression	159564.5	Akaike info criterion	26.80086	
Sum squared resid	3.94E+13	Schwarz criterion	26.81464	
Log likelihood	-20793.47	F-statistic	1754.533	
Prob(F-statistic)	0.000000			

## **DAILY CUMMULATIVE DATA**

## MODEL 6

### ALL DATA

Dependent Variable: TARGET  
Method: Least Squares  
Date: 08/05/09 Time: 10:21  
Sample: 1 1552  
Included observations: 1552

Variable	Coefficient	Std. Error	t-Statistic	Prob.
SPNIRP	427.1466	12.99162	32.87861	0.0000
SP_TQEI_LONG	-0.987441	0.029394	-33.59333	0.0000
SP_TQEI_SHORT	-1.614748	0.036202	-44.60401	0.0000
C	-200420.9	21507.52	-9.318644	0.0000
R-squared	0.877481	Mean dependent var		555785.4
Adjusted R-squared	0.877244	S.D. dependent var		1026969.
S.E. of regression	359815.1	Akaike info criterion		28.42714
Sum squared resid	2.00E+14	Schwarz criterion		28.44092
Log likelihood	-22055.46	F-statistic		3695.591
Durbin-Watson stat	1.258882	Prob(F-statistic)		0.000000

### SUMMER

Dependent Variable: TARGET  
Method: Least Squares  
Date: 08/05/09 Time: 10:21  
Sample: 1 1552 IF SUMMER=1  
Included observations: 823

Variable	Coefficient	Std. Error	t-Statistic	Prob.
SPNIRP	441.5072	13.15015	33.57432	0.0000
SP_TQEI_LONG	-1.175525	0.039663	-29.63792	0.0000
SP_TQEI_SHORT	-1.366778	0.039732	-34.40007	0.0000
C	-116920.3	22218.93	-5.262193	0.0000
R-squared	0.906630	Mean dependent var		576831.2
Adjusted R-squared	0.906288	S.D. dependent var		960636.9
S.E. of regression	294074.3	Akaike info criterion		28.02590
Sum squared resid	7.08E+13	Schwarz criterion		28.04881
Log likelihood	-11528.66	F-statistic		2650.849
Durbin-Watson stat	1.438472	Prob(F-statistic)		0.000000

### WINTER

Dependent Variable: TARGET  
Method: Least Squares  
Date: 08/05/09 Time: 10:21  
Sample(adjusted): 184 1461 IF WINTER=1  
Included observations: 729 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
SPNIRP	427.1399	25.63052	16.66529	0.0000
SP_TQEI_LONG	-0.887015	0.046444	-19.09845	0.0000
SP_TQEI_SHORT	-1.851451	0.064765	-28.58723	0.0000
C	-302747.6	40665.48	-7.444830	0.0000
R-squared	0.864369	Mean dependent var		532025.8
Adjusted R-squared	0.863808	S.D. dependent var		1097229.

S.E. of regression	404924.1	Akaike info criterion	28.66626
Sum squared resid	1.19E+14	Schwarz criterion	28.69145
Log likelihood	-10444.85	F-statistic	1540.128
Durbin-Watson stat	1.182530	Prob(F-statistic)	0.000000

## BST

Dependent Variable: TARGET  
Method: Least Squares  
Date: 08/05/09 Time: 10:21  
Sample: 1 1552 IF BST=1  
Included observations: 954

Variable	Coefficient	Std. Error	t-Statistic	Prob.
SPNIRP	434.5251	12.90332	33.67545	0.0000
SP_TQEI_LONG	-1.040440	0.032141	-32.37096	0.0000
SP_TQEI_SHORT	-1.418791	0.039526	-35.89496	0.0000
C	-150214.7	20946.32	-7.171413	0.0000
R-squared	0.895036	Mean dependent var	548543.3	
Adjusted R-squared	0.894704	S.D. dependent var	934764.3	
S.E. of regression	303324.3	Akaike info criterion	28.08718	
Sum squared resid	8.74E+13	Schwarz criterion	28.10756	
Log likelihood	-13393.58	F-statistic	2700.237	
Durbin-Watson stat	1.432173	Prob(F-statistic)	0.000000	

## GMT

Dependent Variable: TARGET  
Method: Least Squares  
Date: 08/05/09 Time: 10:22  
Sample(adjusted): 213 1459 IF GMT=1  
Included observations: 606 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
SPNIRP	422.2470	29.11922	14.50063	0.0000
SP_TQEI_LONG	-0.886837	0.055745	-15.90868	0.0000
SP_TQEI_SHORT	-1.865403	0.069875	-26.69628	0.0000
C	-313055.1	49949.12	-6.267480	0.0000
R-squared	0.868528	Mean dependent var	563265.8	
Adjusted R-squared	0.867873	S.D. dependent var	1153152.	
S.E. of regression	419162.1	Akaike info criterion	28.73648	
Sum squared resid	1.06E+14	Schwarz criterion	28.76557	
Log likelihood	-8703.154	F-statistic	1325.646	
Durbin-Watson stat	1.134866	Prob(F-statistic)	0.000000	

## Q1

Dependent Variable: TARGET  
Method: Least Squares  
Date: 08/05/09 Time: 10:22  
Sample(adjusted): 276 1461 IF Q1=1  
Included observations: 361 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
SPNIRP	269.7312	35.42013	7.615193	0.0000
SP_TQEI_LONG	-0.727095	0.087377	-8.321392	0.0000
SP_TQEI_SHORT	-2.010728	0.081747	-24.59693	0.0000

C	-187613.2	57312.29	-3.273526	0.0012
R-squared	0.881904	Mean dependent var	493834.1	
Adjusted R-squared	0.880911	S.D. dependent var	1063773.	
S.E. of regression	367099.8	Akaike info criterion	28.47567	
Sum squared resid	4.81E+13	Schwarz criterion	28.51876	
Log likelihood	-5135.859	F-statistic	888.6535	
Durbin-Watson stat	1.028073	Prob(F-statistic)	0.000000	

## Q2

Dependent Variable: TARGET

Method: Least Squares

Date: 08/05/09 Time: 10:22

Sample: 1 1552 IF Q2=1

Included observations: 455

Variable	Coefficient	Std. Error	t-Statistic	Prob.
SPNIRP	360.0963	20.13588	17.88331	0.0000
SP_TQEI_LONG	-1.176401	0.056125	-20.96039	0.0000
SP_TQEI_SHORT	-1.573821	0.068726	-22.89987	0.0000
C	-9177.918	30963.22	-0.296414	0.7671
R-squared	0.887566	Mean dependent var	490481.8	
Adjusted R-squared	0.886819	S.D. dependent var	826022.3	
S.E. of regression	277894.1	Akaike info criterion	27.91662	
Sum squared resid	3.48E+13	Schwarz criterion	27.95284	
Log likelihood	-6347.031	F-statistic	1186.753	
Durbin-Watson stat	1.439723	Prob(F-statistic)	0.000000	

## Q3

Dependent Variable: TARGET

Method: Least Squares

Date: 08/05/09 Time: 10:22

Sample(adjusted): 92 1279 IF Q3=1

Included observations: 368 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
SPNIRP	483.1945	17.39297	27.78102	0.0000
SP_TQEI_LONG	-1.122778	0.055805	-20.11957	0.0000
SP_TQEI_SHORT	-1.273771	0.048465	-26.28236	0.0000
C	-197024.7	31909.41	-6.174502	0.0000
R-squared	0.926383	Mean dependent var	683594.7	
Adjusted R-squared	0.925776	S.D. dependent var	1096444.	
S.E. of regression	298715.3	Akaike info criterion	28.06318	
Sum squared resid	3.25E+13	Schwarz criterion	28.10566	
Log likelihood	-5159.625	F-statistic	1526.840	
Durbin-Watson stat	1.464727	Prob(F-statistic)	0.000000	

## Q4

Dependent Variable: TARGET

Method: Least Squares

Date: 08/05/09 Time: 10:22

Sample(adjusted): 184 1371 IF Q4=1

Included observations: 368 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
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SPNIRP	555.0091	33.25316	16.69042	0.0000
SP_TQEI_LONG	-1.076031	0.055274	-19.46714	0.0000
SP_TQEI_SHORT	-1.742124	0.094751	-18.38631	0.0000
C	-337704.2	53110.40	-6.358534	0.0000
R-squared	0.881321	Mean dependent var	569491.1	
Adjusted R-squared	0.880343	S.D. dependent var	1129278.	
S.E. of regression	390634.3	Akaike info criterion	28.59974	
Sum squared resid	5.55E+13	Schwarz criterion	28.64222	
Log likelihood	-5258.352	F-statistic	901.0318	
Durbin-Watson stat	1.629614	Prob(F-statistic)	0.000000	

## MODEL 7

### ALL DATA

Dependent Variable: TARGET

Method: Least Squares

Date: 08/05/09 Time: 10:24

Sample(adjusted): 1 1551

Included observations: 1551 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
SPNIRP	403.6204	14.66727	27.51845	0.0000
TQEI	-5.764691	1.809790	-3.185281	0.0015
SP_TQEI_LONG	-0.849713	0.051108	-16.62598	0.0000
SP_TQEI_SHORT	-1.584377	0.037686	-42.04192	0.0000
C	-161437.7	24720.59	-6.530494	0.0000
R-squared	0.878768	Mean dependent var	555018.8	
Adjusted R-squared	0.878455	S.D. dependent var	1026856.	
S.E. of regression	357996.2	Akaike info criterion	28.41765	
Sum squared resid	1.98E+14	Schwarz criterion	28.43489	
Log likelihood	-22032.89	F-statistic	2801.613	
Durbin-Watson stat	1.239284	Prob(F-statistic)	0.000000	

## MODEL 8

### ALL DATA

Dependent Variable: TARGET

Method: Least Squares

Date: 08/05/09 Time: 10:31

Sample: 1 1552

Included observations: 1552

Variable	Coefficient	Std. Error	t-Statistic	Prob.
SP_LONG	358.5213	30.16278	11.88621	0.0000
SP_SHORT	452.0785	27.16280	16.64330	0.0000
TQEI_LONG	-5.774550	3.237020	-1.783909	0.0746
TQEI_SHORT	-5.261083	5.129165	-1.025719	0.3052
SP_TQEI_LONG	-0.778648	0.079150	-9.837676	0.0000
SP_TQEI_SHORT	-1.496693	0.064371	-23.25099	0.0000
C	-146648.4	54440.27	-2.693748	0.0071
R-squared	0.877137	Mean dependent var	555785.4	
Adjusted R-squared	0.876660	S.D. dependent var	1026969.	
S.E. of regression	360669.6	Akaike info criterion	28.43381	
Sum squared resid	2.01E+14	Schwarz criterion	28.45793	
Log likelihood	-22057.64	F-statistic	1838.329	

Durbin-Watson stat    1.231798    Prob(F-statistic)    0.000000

**ALL DATA (POOR T-STATS REMOVED)**

Dependent Variable: TARGET  
 Method: Least Squares  
 Date: 08/05/09 Time: 10:32  
 Sample: 1 1552  
 Included observations: 1552

Variable	Coefficient	Std. Error	t-Statistic	Prob.
SP_LONG	340.1615	24.27802	14.01109	0.0000
SP_SHORT	449.2996	27.02780	16.62361	0.0000
TQEI_LONG	-7.642313	2.676331	-2.855519	0.0044
SP_TQEI_LONG	-0.739782	0.069491	-10.64567	0.0000
SP_TQEI_SHORT	-1.533383	0.053519	-28.65108	0.0000
C	-104767.0	36008.24	-2.909527	0.0037
R-squared	0.877053	Mean dependent var	555785.4	
Adjusted R-squared	0.876656	S.D. dependent var	1026969.	
S.E. of regression	360675.7	Akaike info criterion	28.43320	
Sum squared resid	2.01E+14	Schwarz criterion	28.45388	
Log likelihood	-22058.17	F-statistic	2205.710	
Durbin-Watson stat	1.238233	Prob(F-statistic)	0.000000	

**MODEL 9**

**ALL DATA**

Dependent Variable: TARGET  
 Method: Least Squares  
 Date: 08/18/09 Time: 15:14  
 Sample(adjusted): 1 1551  
 Included observations: 1551 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
SPNIRP	272.9722	21.64994	12.60845	0.0000
SP_TQAB	0.810246	0.030735	26.36226	0.0000
SP_TQAO	1.596138	0.028680	55.65332	0.0000
C	-196772.5	25421.12	-7.740513	0.0000
R-squared	0.832548	Mean dependent var	555018.8	
Adjusted R-squared	0.832223	S.D. dependent var	1026856.	
S.E. of regression	420605.6	Akaike info criterion	28.73935	
Sum squared resid	2.74E+14	Schwarz criterion	28.75314	
Log likelihood	-22283.37	F-statistic	2563.826	
Durbin-Watson stat	1.017873	Prob(F-statistic)	0.000000	

**SUMMER**

Dependent Variable: TARGET  
 Method: Least Squares  
 Date: 08/18/09 Time: 15:15  
 Sample(adjusted): 1 1551 IF SUMMER=1  
 Included observations: 822 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
SPNIRP	264.1425	28.20097	9.366434	0.0000
SP_TQAB	0.905939	0.043084	21.02728	0.0000

SP_TQAO	1.553154	0.037685	41.21382	0.0000
C	-122947.3	26847.95	-4.579391	0.0000
R-squared	0.864622	Mean dependent var	575410.5	
Adjusted R-squared	0.864125	S.D. dependent var	960356.2	
S.E. of regression	353998.7	Akaike info criterion	28.39683	
Sum squared resid	1.03E+14	Schwarz criterion	28.41976	
Log likelihood	-11667.10	F-statistic	1741.443	
Durbin-Watson stat	1.167258	Prob(F-statistic)	0.000000	

## WINTER

Dependent Variable: TARGET

Method: Least Squares

Date: 08/18/09 Time: 15:16

Sample(adjusted): 184 1461 IF WINTER=1

Included observations: 729 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
SPNIRP	332.6658	33.37763	9.966730	0.0000
SP_TQAB	0.809216	0.043167	18.74622	0.0000
SP_TQAO	1.656882	0.042512	38.97432	0.0000
C	-307846.2	46964.77	-6.554832	0.0000
R-squared	0.820639	Mean dependent var	532025.8	
Adjusted R-squared	0.819896	S.D. dependent var	1097229.	
S.E. of regression	465648.9	Akaike info criterion	28.94572	
Sum squared resid	1.57E+14	Schwarz criterion	28.97092	
Log likelihood	-10546.72	F-statistic	1105.706	
Durbin-Watson stat	0.959020	Prob(F-statistic)	0.000000	

## BST

Dependent Variable: TARGET

Method: Least Squares

Date: 08/18/09 Time: 15:17

Sample(adjusted): 1 1551 IF BST=1

Included observations: 953 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
SPNIRP	274.9536	26.28048	10.46227	0.0000
SP_TQAB	0.853905	0.037272	22.90983	0.0000
SP_TQAO	1.514603	0.036143	41.90531	0.0000
C	-143230.6	25416.81	-5.635271	0.0000
R-squared	0.848525	Mean dependent var	547288.1	
Adjusted R-squared	0.848046	S.D. dependent var	934450.4	
S.E. of regression	364261.0	Akaike info criterion	28.45332	
Sum squared resid	1.26E+14	Schwarz criterion	28.47371	
Log likelihood	-13554.01	F-statistic	1772.015	
Durbin-Watson stat	1.140886	Prob(F-statistic)	0.000000	

## GMT

Dependent Variable: TARGET

Method: Least Squares

Date: 08/18/09 Time: 15:17

Sample(adjusted): 213 1459 IF GMT=1

Included observations: 606 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
SPNIRP	338.1266	38.28491	8.831850	0.0000
SP_TQAB	0.787412	0.050399	15.62349	0.0000
SP_TQAO	1.645428	0.047113	34.92484	0.0000
C	-350297.4	57615.52	-6.079914	0.0000
R-squared	0.827468	Mean dependent var		563265.8
Adjusted R-squared	0.826608	S.D. dependent var		1153152.
S.E. of regression	480177.0	Akaike info criterion		29.00828
Sum squared resid	1.39E+14	Schwarz criterion		29.03736
Log likelihood	-8785.508	F-statistic		962.3998
Durbin-Watson stat	0.916850	Prob(F-statistic)		0.000000

### Q1

Dependent Variable: TARGET

Method: Least Squares

Date: 08/18/09 Time: 15:19

Sample(adjusted): 276 1461 IF Q1=1

Included observations: 361 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
SPNIRP	237.3701	40.04297	5.927884	0.0000
SP_TQAB	0.809625	0.061564	13.15090	0.0000
SP_TQAO	1.606733	0.050314	31.93404	0.0000
C	-165039.8	64736.28	-2.549418	0.0112
R-squared	0.852617	Mean dependent var		493834.1
Adjusted R-squared	0.851379	S.D. dependent var		1063773.
S.E. of regression	410099.8	Akaike info criterion		28.69721
Sum squared resid	6.00E+13	Schwarz criterion		28.74030
Log likelihood	-5175.846	F-statistic		688.4217
Durbin-Watson stat	0.895477	Prob(F-statistic)		0.000000

### Q2

Dependent Variable: TARGET

Method: Least Squares

Date: 08/18/09 Time: 15:20

Sample(adjusted): 1 1551 IF Q2=1

Included observations: 454 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
SPNIRP	200.9733	34.09041	5.895303	0.0000
SP_TQAB	1.000612	0.052804	18.94939	0.0000
SP_TQAO	1.690589	0.049557	34.11430	0.0000
C	-7198.503	33589.27	-0.214310	0.8304
R-squared	0.865645	Mean dependent var		487719.3
Adjusted R-squared	0.864749	S.D. dependent var		824826.7
S.E. of regression	303342.0	Akaike info criterion		28.09188
Sum squared resid	4.14E+13	Schwarz criterion		28.12816
Log likelihood	-6372.857	F-statistic		966.4445
Durbin-Watson stat	1.573403	Prob(F-statistic)		0.000000

### Q3

Dependent Variable: TARGET

Method: Least Squares

Date: 08/18/09 Time: 15:20  
Sample(adjusted): 92 1279 IF Q3=1  
Included observations: 368 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
SPNIRP	317.6331	45.02133	7.055169	0.0000
SP_TQAB	0.841063	0.068131	12.34477	0.0000
SP_TQAO	1.434358	0.056378	25.44180	0.0000
C	-213344.9	43008.05	-4.960581	0.0000
R-squared	0.870054	Mean dependent var	683594.7	
Adjusted R-squared	0.868983	S.D. dependent var	1096444.	
S.E. of regression	396871.2	Akaike info criterion	28.63142	
Sum squared resid	5.73E+13	Schwarz criterion	28.67390	
Log likelihood	-5264.182	F-statistic	812.3907	
Durbin-Watson stat	0.935755	Prob(F-statistic)	0.000000	

Q4

Dependent Variable: TARGET  
Method: Least Squares  
Date: 08/18/09 Time: 15:20  
Sample(adjusted): 184 1371 IF Q4=1  
Included observations: 368 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
SPNIRP	361.0127	54.93679	6.571420	0.0000
SP_TQAB	0.847977	0.065966	12.85479	0.0000
SP_TQAO	1.894345	0.079294	23.89007	0.0000
C	-377492.9	64226.89	-5.877490	0.0000
R-squared	0.825426	Mean dependent var	569491.1	
Adjusted R-squared	0.823987	S.D. dependent var	1129278.	
S.E. of regression	473776.5	Akaike info criterion	28.98567	
Sum squared resid	8.17E+13	Schwarz criterion	29.02815	
Log likelihood	-5329.363	F-statistic	573.6907	
Durbin-Watson stat	1.087971	Prob(F-statistic)	0.000000	

## **MODEL 9.1**

ALL DATA

Dependent Variable: TARGET  
Method: Least Squares  
Date: 08/05/09 Time: 10:43  
Sample(adjusted): 1 1551  
Included observations: 1551 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
SPNIRP	155.6108	35.63819	4.366406	0.0000
TQAB	13.06453	2.985562	4.375904	0.0000
TQAO	-1.860469	2.800180	-0.664411	0.5065
SP_TQAB	0.560789	0.064819	8.651592	0.0000
SP_TQAO	1.624907	0.047250	34.38940	0.0000
C	99523.61	78547.54	1.267049	0.2053
R-squared	0.834612	Mean dependent var	555018.8	
Adjusted R-squared	0.834076	S.D. dependent var	1026856.	
S.E. of regression	418276.5	Akaike info criterion	28.72953	
Sum squared resid	2.70E+14	Schwarz criterion	28.75022	
Log likelihood	-22273.75	F-statistic	1559.330	

Durbin-Watson stat = 1.020970 Prob(F-statistic) = 0.000000

**ALL DATA (POOR T-STATS REMOVED)**

Dependent Variable: TARGET  
 Method: Least Squares  
 Date: 08/05/09 Time: 10:43  
 Sample(adjusted): 1 1551  
 Included observations: 1551 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
SPNIRP	164.5977	32.96561	4.993012	0.0000
TQAB	12.92495	2.977623	4.340693	0.0000
SP_TQAB	0.562398	0.064762	8.684045	0.0000
SP_TQAO	1.599885	0.028529	56.07904	0.0000
C	72217.86	66925.91	1.079072	0.2807
R-squared	0.834564	Mean dependent var		555018.8
Adjusted R-squared	0.834136	S.D. dependent var		1026856.
S.E. of regression	418201.0	Akaike info criterion		28.72853
Sum squared resid	2.70E+14	Schwarz criterion		28.74577
Log likelihood	-22273.98	F-statistic		1949.756
Durbin-Watson stat	1.015302	Prob(F-statistic)		0.000000

**MODEL 10**

**ALL DATA**

Dependent Variable: TARGET  
 Method: Least Squares  
 Date: 08/18/09 Time: 15:21  
 Sample(adjusted): 1 1551  
 Included observations: 1551 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
SPNIRP	136.3320	16.36867	8.328841	0.0000
SP_TQEI_LONG	-1.424658	0.049676	-28.67917	0.0000
SP_TQEI_SHORT	-1.539174	0.047364	-32.49667	0.0000
SP_TQAB	-0.691380	0.049103	-14.08007	0.0000
SP_TQAO	0.191486	0.043383	4.413809	0.0000
C	-114662.1	18673.31	-6.140430	0.0000
R-squared	0.911155	Mean dependent var		555018.8
Adjusted R-squared	0.910868	S.D. dependent var		1026856.
S.E. of regression	306568.1	Akaike info criterion		28.10813
Sum squared resid	1.45E+14	Schwarz criterion		28.12881
Log likelihood	-21791.85	F-statistic		3168.976
Durbin-Watson stat	1.303832	Prob(F-statistic)		0.000000

**SUMMER**

Dependent Variable: TARGET  
 Method: Least Squares  
 Date: 08/18/09 Time: 15:24  
 Sample(adjusted): 1 1551 IF SUMMER=1  
 Included observations: 822 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
SPNIRP	189.0848	21.11959	8.953055	0.0000

SP_TQEI_LONG	-1.439385	0.068153	-21.11997	0.0000
SP_TQEI_SHORT	-1.286168	0.056985	-22.57045	0.0000
SP_TQAB	-0.505577	0.065314	-7.740714	0.0000
SP_TQAO	0.229571	0.058106	3.950925	0.0001
C	-60148.67	20233.47	-2.972732	0.0030
R-squared	0.925916	Mean dependent var	575410.5	
Adjusted R-squared	0.925462	S.D. dependent var	960356.2	
S.E. of regression	262193.1	Akaike info criterion	27.79882	
Sum squared resid	5.61E+13	Schwarz criterion	27.83321	
Log likelihood	-11419.32	F-statistic	2039.704	
Durbin-Watson stat	1.489139	Prob(F-statistic)	0.000000	

## WINTER

Dependent Variable: TARGET

Method: Least Squares

Date: 08/18/09 Time: 15:25

Sample(adjusted): 184 1461 IF WINTER=1

Included observations: 729 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
SPNIRP	133.1420	25.93140	5.134393	0.0000
SP_TQEI_LONG	-1.479791	0.069133	-21.40504	0.0000
SP_TQEI_SHORT	-1.705266	0.079504	-21.44888	0.0000
SP_TQAB	-0.802866	0.069232	-11.59676	0.0000
SP_TQAO	0.176457	0.062832	2.808379	0.0051
C	-185534.7	33613.06	-5.519722	0.0000
R-squared	0.910595	Mean dependent var	532025.8	
Adjusted R-squared	0.909977	S.D. dependent var	1097229.	
S.E. of regression	329210.9	Akaike info criterion	28.25498	
Sum squared resid	7.84E+13	Schwarz criterion	28.29277	
Log likelihood	-10292.94	F-statistic	1472.764	
Durbin-Watson stat	1.208612	Prob(F-statistic)	0.000000	

## BST

Dependent Variable: TARGET

Method: Least Squares

Date: 08/18/09 Time: 15:25

Sample(adjusted): 1 1551 IF BST=1

Included observations: 953 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
SPNIRP	197.0002	19.96398	9.867782	0.0000
SP_TQEI_LONG	-1.305747	0.061548	-21.21524	0.0000
SP_TQEI_SHORT	-1.335824	0.054956	-24.30709	0.0000
SP_TQAB	-0.485319	0.060755	-7.988127	0.0000
SP_TQAO	0.222538	0.054843	4.057714	0.0001
C	-103570.7	19160.61	-5.405398	0.0000
R-squared	0.914840	Mean dependent var	547288.1	
Adjusted R-squared	0.914390	S.D. dependent var	934450.4	
S.E. of regression	273412.2	Akaike info criterion	27.88162	
Sum squared resid	7.08E+13	Schwarz criterion	27.91222	
Log likelihood	-13279.59	F-statistic	2034.646	
Durbin-Watson stat	1.432691	Prob(F-statistic)	0.000000	

## GMT

Dependent Variable: TARGET  
 Method: Least Squares  
 Date: 08/18/09 Time: 15:25  
 Sample(adjusted): 213 1459 IF GMT=1  
 Included observations: 606 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
SPNIRP	90.59109	29.32177	3.089551	0.0021
SP_TQEI_LONG	-1.587353	0.078869	-20.12635	0.0000
SP_TQEI_SHORT	-1.777063	0.086316	-20.58779	0.0000
SP_TQAB	-0.914912	0.077675	-11.77873	0.0000
SP_TQAO	0.118594	0.068679	1.726788	0.0847
C	-128141.4	40963.84	-3.128160	0.0018
R-squared	0.917024	Mean dependent var		563265.8
Adjusted R-squared	0.916332	S.D. dependent var		1153152.
S.E. of regression	333553.3	Akaike info criterion		28.28284
Sum squared resid	6.68E+13	Schwarz criterion		28.32648
Log likelihood	-8563.702	F-statistic		1326.199
Durbin-Watson stat	1.196665	Prob(F-statistic)		0.000000

#### GMT (POOR T-STATS REMOVED)

Dependent Variable: TARGET  
 Method: Least Squares  
 Date: 08/18/09 Time: 15:27  
 Sample(adjusted): 213 1459 IF GMT=1  
 Included observations: 606 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
SPNIRP	88.20919	29.33755	3.006699	0.0028
SP_TQEI_LONG	-1.673240	0.061310	-27.29166	0.0000
SP_TQEI_SHORT	-1.891042	0.055713	-33.94286	0.0000
SP_TQAB	-1.010960	0.054307	-18.61574	0.0000
C	-128321.9	41031.19	-3.127424	0.0018
R-squared	0.916612	Mean dependent var		563265.8
Adjusted R-squared	0.916057	S.D. dependent var		1153152.
S.E. of regression	334102.8	Akaike info criterion		28.28450
Sum squared resid	6.71E+13	Schwarz criterion		28.32086
Log likelihood	-8565.204	F-statistic		1651.558
Durbin-Watson stat	1.202604	Prob(F-statistic)		0.000000

#### Q1

Dependent Variable: TARGET  
 Method: Least Squares  
 Date: 08/18/09 Time: 15:25  
 Sample(adjusted): 276 1461 IF Q1=1  
 Included observations: 361 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
SPNIRP	22.98509	29.88669	0.769074	0.4424
SP_TQEI_LONG	-1.419167	0.104264	-13.61122	0.0000
SP_TQEI_SHORT	-1.732250	0.090720	-19.09453	0.0000
SP_TQAB	-0.737168	0.087934	-8.383186	0.0000
SP_TQAO	0.179289	0.074181	2.416899	0.0162
C	-15745.74	43342.49	-0.363286	0.7166
R-squared	0.936371	Mean dependent var		493834.1

Adjusted R-squared	0.935475	S.D. dependent var	1063773.
S.E. of regression	270217.3	Akaike info criterion	27.86832
Sum squared resid	2.59E+13	Schwarz criterion	27.93296
Log likelihood	-5024.232	F-statistic	1044.846
Durbin-Watson stat	1.191228	Prob(F-statistic)	0.000000

### Q1 (POOR T-STATS REMOVED)

Dependent Variable: TARGET  
Method: Least Squares  
Date: 08/18/09 Time: 15:26  
Sample(adjusted): 276 1461 IF Q1=1  
Included observations: 361 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
SP_TQEI_LONG	-1.415213	0.104078	-13.59763	0.0000
SP_TQEI_SHORT	-1.763574	0.081017	-21.76808	0.0000
SP_TQAB	-0.759751	0.082839	-9.171450	0.0000
SP_TQAO	0.176193	0.074030	2.380033	0.0178
C	6002.604	32827.64	0.182852	0.8550
R-squared	0.936265	Mean dependent var	493834.1	
Adjusted R-squared	0.935549	S.D. dependent var	1063773.	
S.E. of regression	270062.2	Akaike info criterion	27.86445	
Sum squared resid	2.60E+13	Schwarz criterion	27.91831	
Log likelihood	-5024.533	F-statistic	1307.410	
Durbin-Watson stat	1.201191	Prob(F-statistic)	0.000000	

### Q2

Dependent Variable: TARGET  
Method: Least Squares  
Date: 08/18/09 Time: 15:28  
Sample(adjusted): 1 1551 IF Q2=1  
Included observations: 454 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
SPNIRP	115.8497	27.92345	4.148831	0.0000
SP_TQEI_LONG	-1.303078	0.098981	-13.16495	0.0000
SP_TQEI_SHORT	-1.312126	0.096118	-13.65124	0.0000
SP_TQAB	-0.359840	0.097827	-3.678350	0.0003
SP_TQAO	0.429476	0.088105	4.874613	0.0000
C	22212.03	27173.98	0.817401	0.4141
R-squared	0.914621	Mean dependent var	487719.3	
Adjusted R-squared	0.913668	S.D. dependent var	824826.7	
S.E. of regression	242353.6	Akaike info criterion	27.64731	
Sum squared resid	2.63E+13	Schwarz criterion	27.70174	
Log likelihood	-6269.940	F-statistic	959.8328	
Durbin-Watson stat	1.646076	Prob(F-statistic)	0.000000	

### Q3

Dependent Variable: TARGET  
Method: Least Squares  
Date: 08/18/09 Time: 15:28  
Sample(adjusted): 92 1279 IF Q3=1  
Included observations: 368 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
SPNIRP	249.8116	30.94233	8.073458	0.0000
SP_TQEI_LONG	-1.463614	0.092400	-15.83990	0.0000
SP_TQEI_SHORT	-1.305210	0.071034	-18.37448	0.0000
SP_TQAB	-0.562138	0.086871	-6.470939	0.0000
SP_TQAO	0.080499	0.076566	1.051359	0.2938
C	-129506.3	29918.16	-4.328686	0.0000
R-squared	0.939732	Mean dependent var	683594.7	
Adjusted R-squared	0.938899	S.D. dependent var	1096444.	
S.E. of regression	271025.5	Akaike info criterion	27.87398	
Sum squared resid	2.66E+13	Schwarz criterion	27.93770	
Log likelihood	-5122.813	F-statistic	1128.892	
Durbin-Watson stat	1.454339	Prob(F-statistic)	0.000000	

### Q3 (POOR T-STATS REMOVED)

Dependent Variable: TARGET  
Method: Least Squares  
Date: 08/18/09 Time: 15:29  
Sample(adjusted): 92 1279 IF Q3=1  
Included observations: 368 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
SPNIRP	258.6568	29.78095	8.685312	0.0000
SP_TQEI_LONG	-1.529151	0.068216	-22.41621	0.0000
SP_TQEI_SHORT	-1.362908	0.045107	-30.21498	0.0000
SP_TQAB	-0.617080	0.069406	-8.890913	0.0000
C	-130661.7	29902.31	-4.369619	0.0000
R-squared	0.939548	Mean dependent var	683594.7	
Adjusted R-squared	0.938881	S.D. dependent var	1096444.	
S.E. of regression	271064.9	Akaike info criterion	27.87160	
Sum squared resid	2.67E+13	Schwarz criterion	27.92470	
Log likelihood	-5123.374	F-statistic	1410.429	
Durbin-Watson stat	1.470475	Prob(F-statistic)	0.000000	

### Q4

Dependent Variable: TARGET  
Method: Least Squares  
Date: 08/18/09 Time: 15:29  
Sample(adjusted): 184 1371 IF Q4=1  
Included observations: 368 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
SPNIRP	194.2166	39.65804	4.897282	0.0000
SP_TQEI_LONG	-1.519715	0.084809	-17.91931	0.0000
SP_TQEI_SHORT	-1.583221	0.116176	-13.62776	0.0000
SP_TQAB	-0.766602	0.092474	-8.289916	0.0000
SP_TQAO	0.396346	0.095374	4.155710	0.0000
C	-271192.1	44603.59	-6.080050	0.0000
R-squared	0.918174	Mean dependent var	569491.1	
Adjusted R-squared	0.917044	S.D. dependent var	1129278.	
S.E. of regression	325256.5	Akaike info criterion	28.23879	
Sum squared resid	3.83E+13	Schwarz criterion	28.30250	
Log likelihood	-5189.937	F-statistic	812.4021	
Durbin-Watson stat	1.448484	Prob(F-statistic)	0.000000	