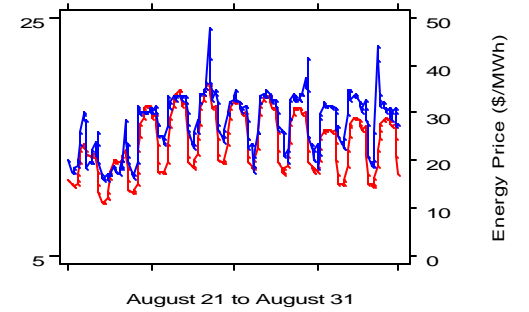
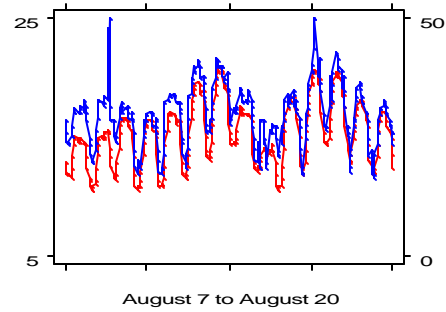
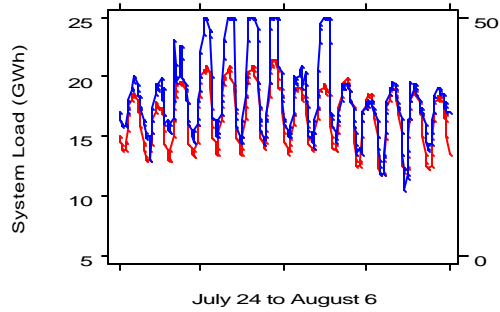
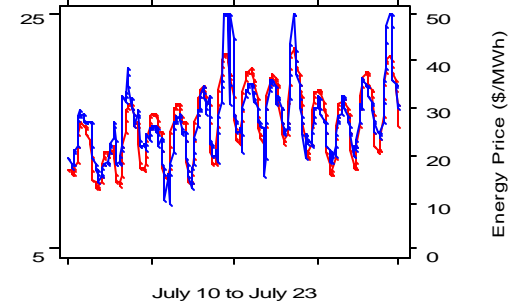
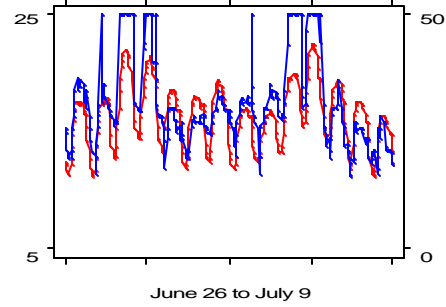
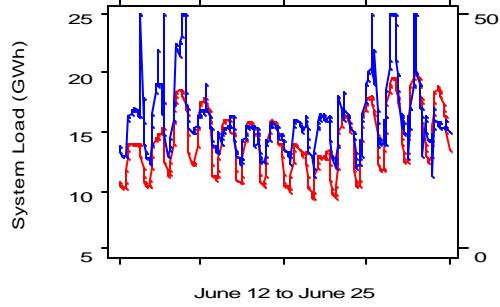
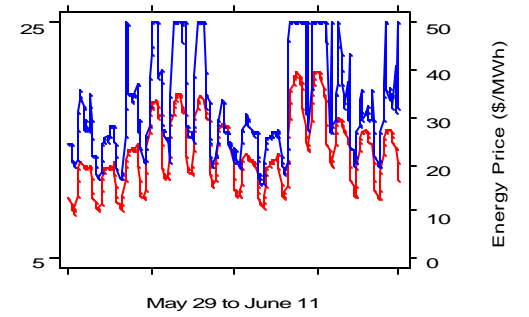
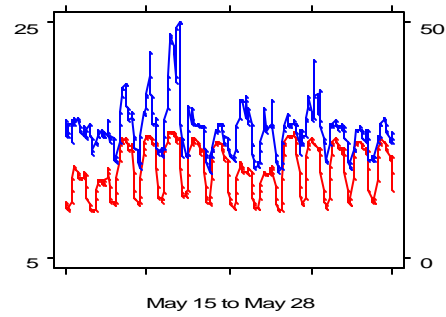
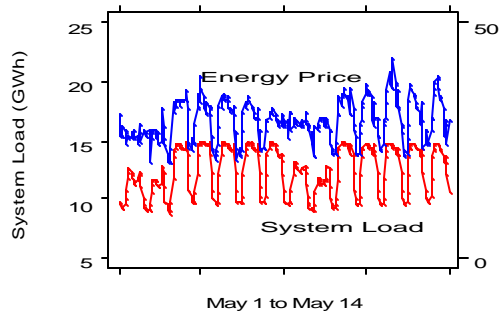
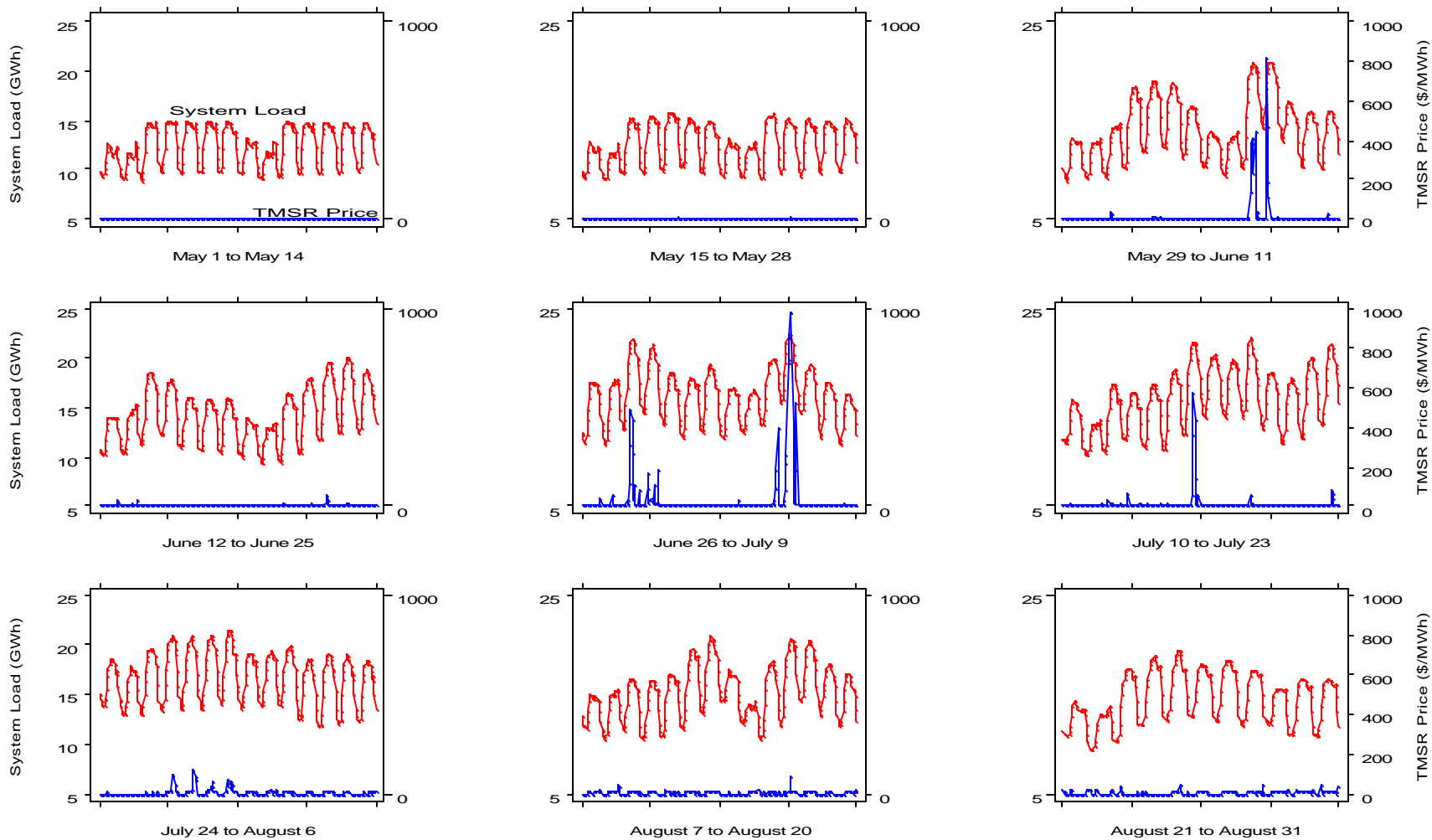


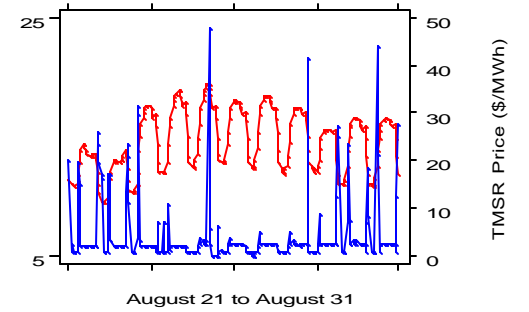
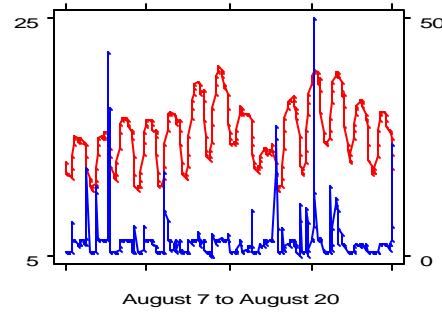
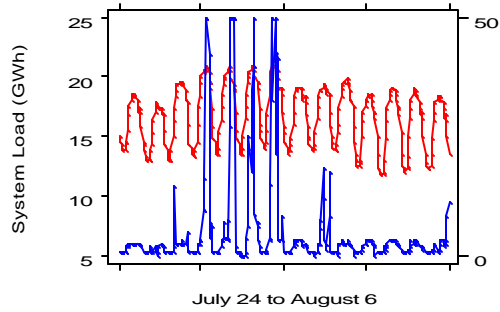
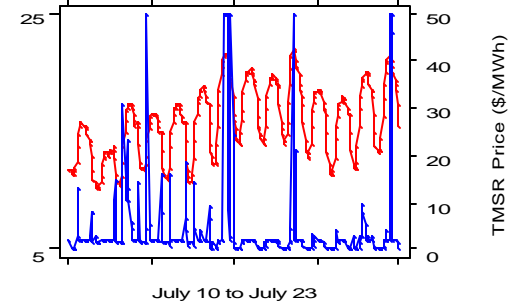
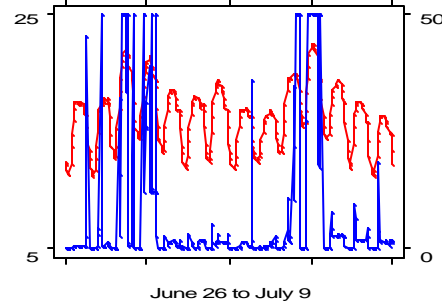
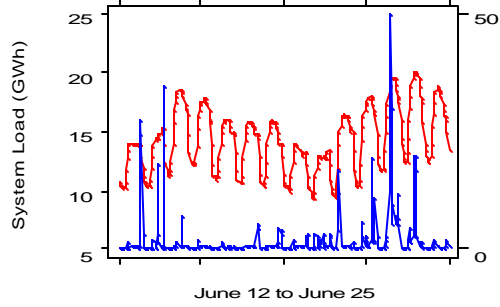
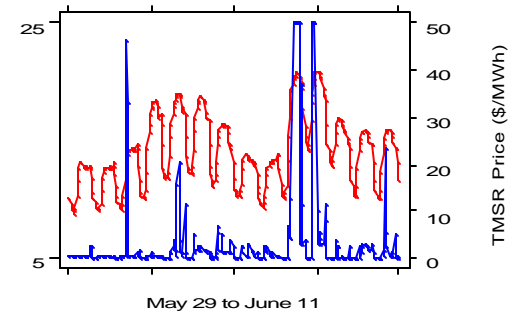
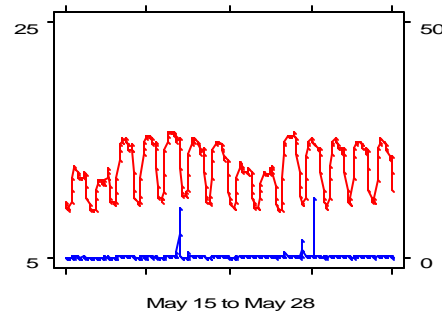
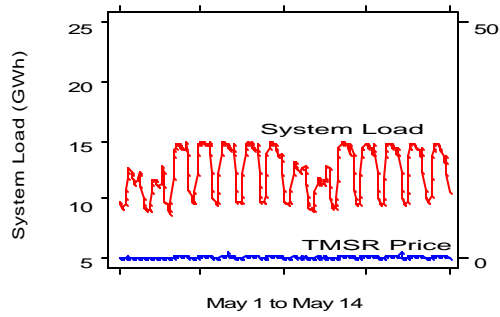
**Energy Clearing Price and System Load: May to August**



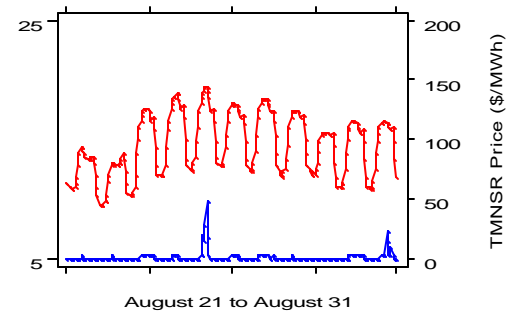
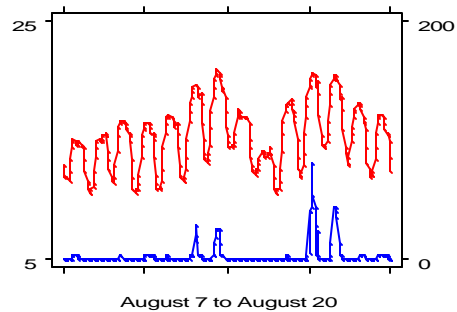
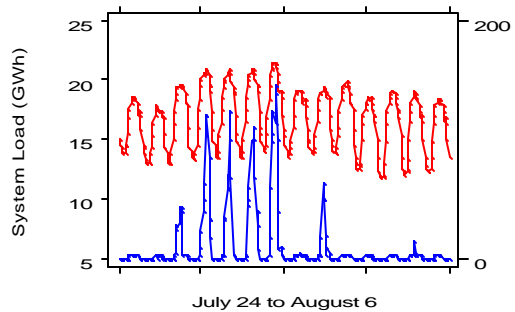
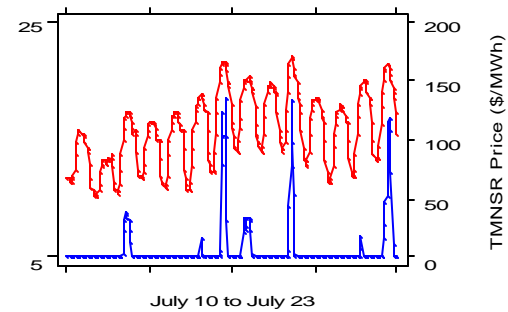
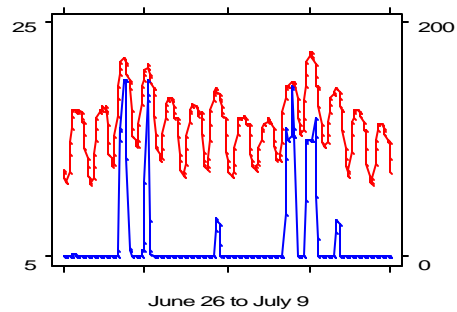
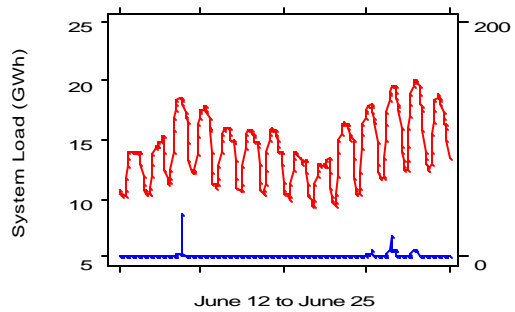
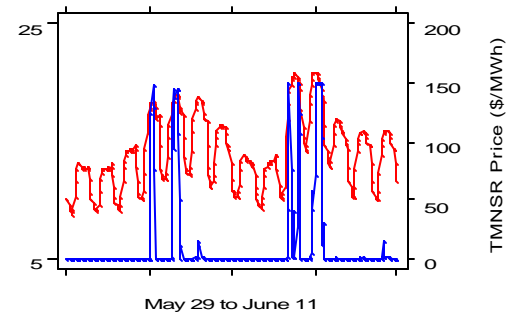
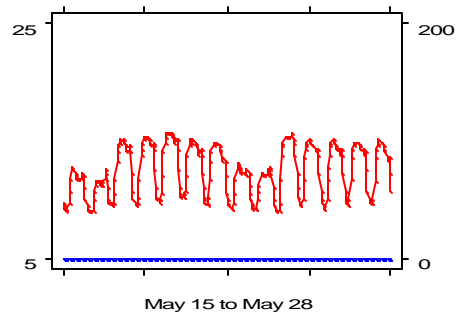
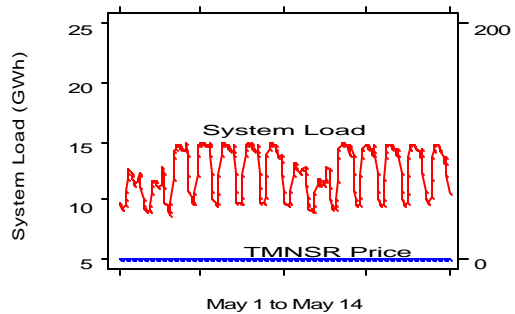
**Energy Clearing Price and System Load: May to August**



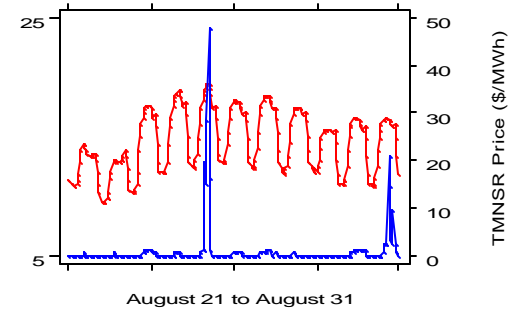
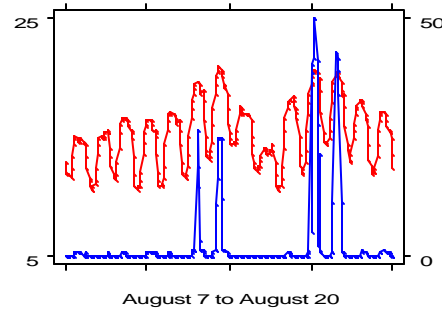
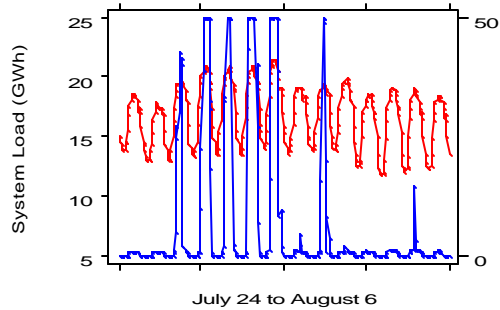
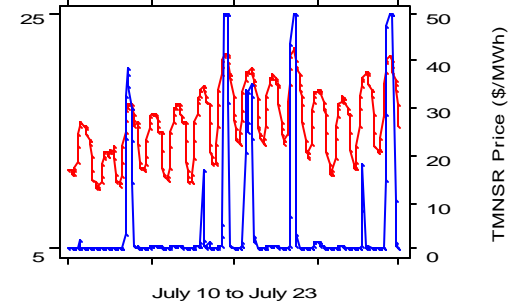
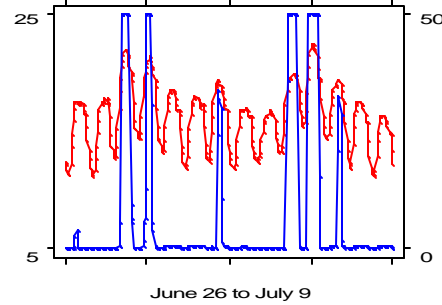
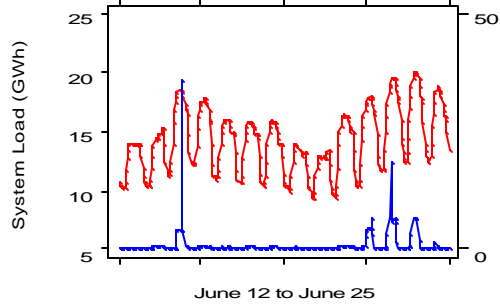
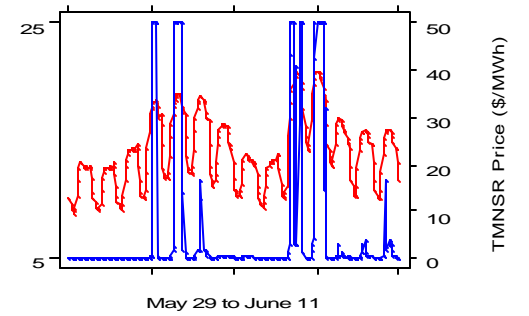
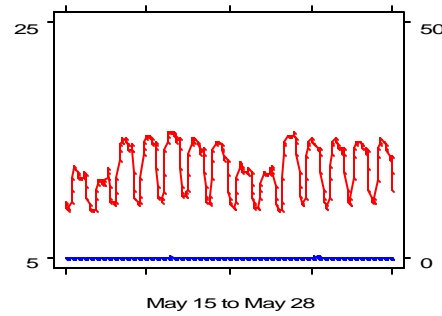
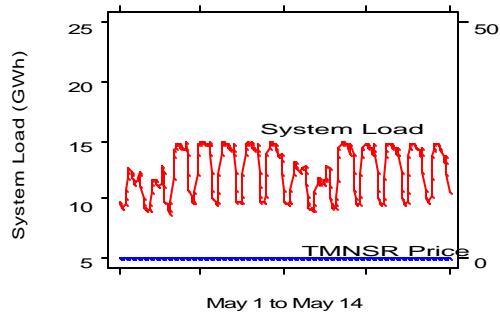
**TMSR Clearing Price and System Load: May to August**



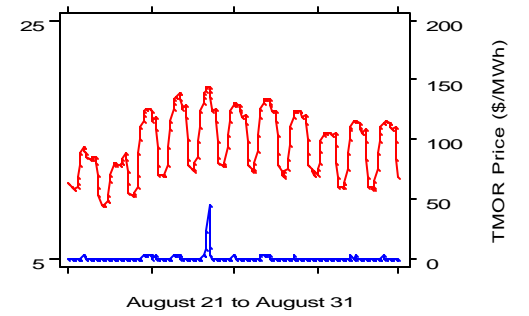
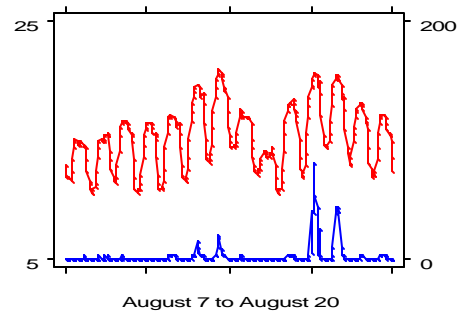
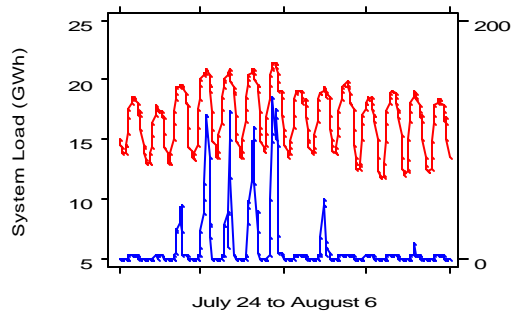
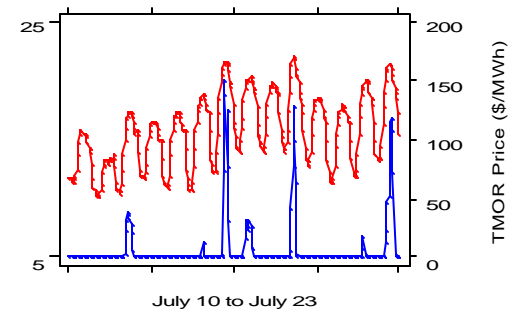
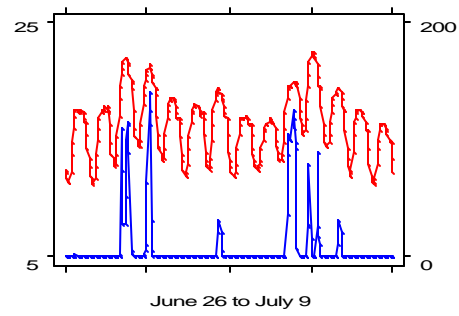
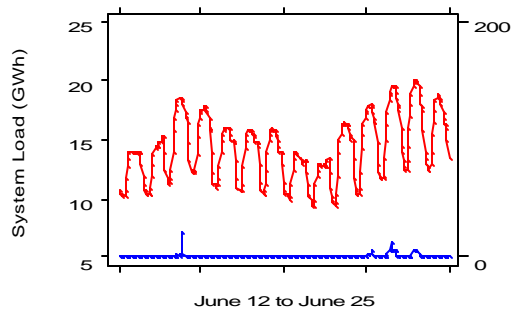
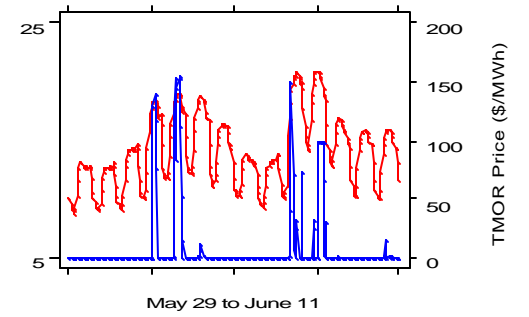
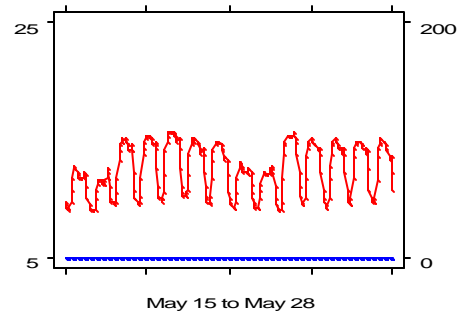
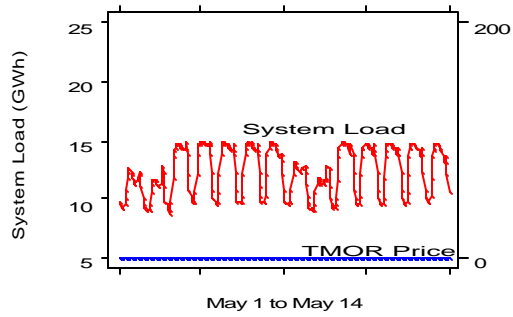
**TMSR Clearing Price and System Load: May to August**



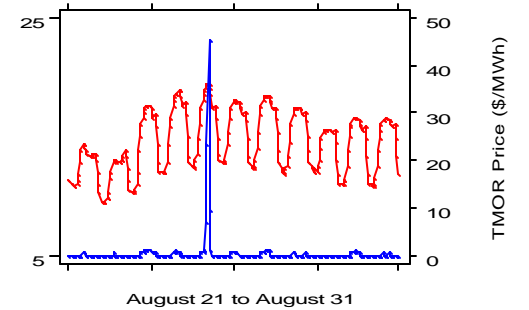
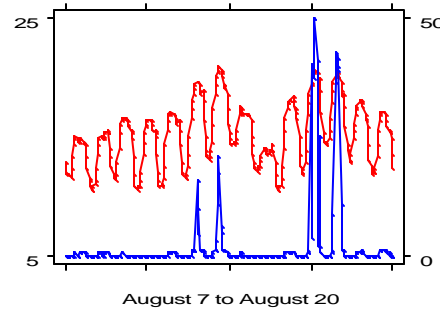
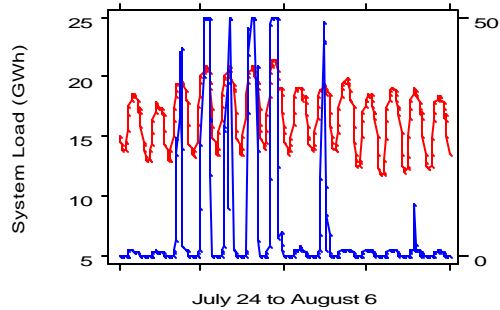
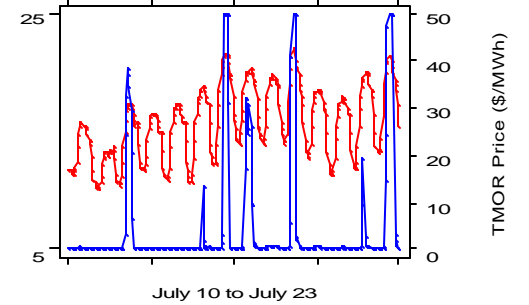
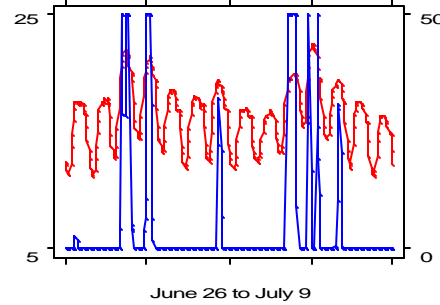
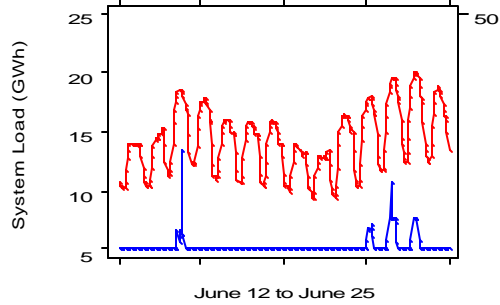
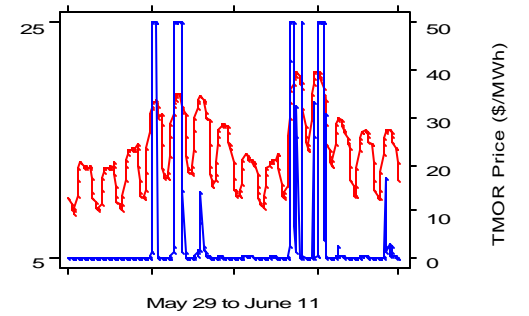
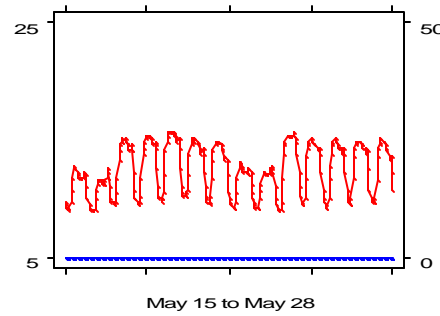
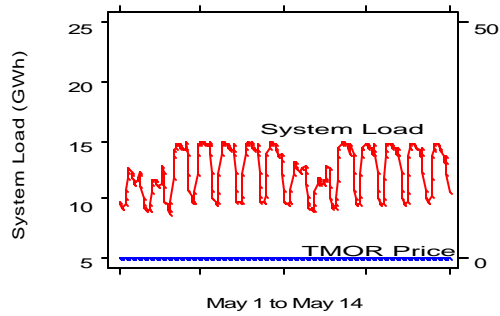
# TMNSR Clearing Price and System Load: May to August



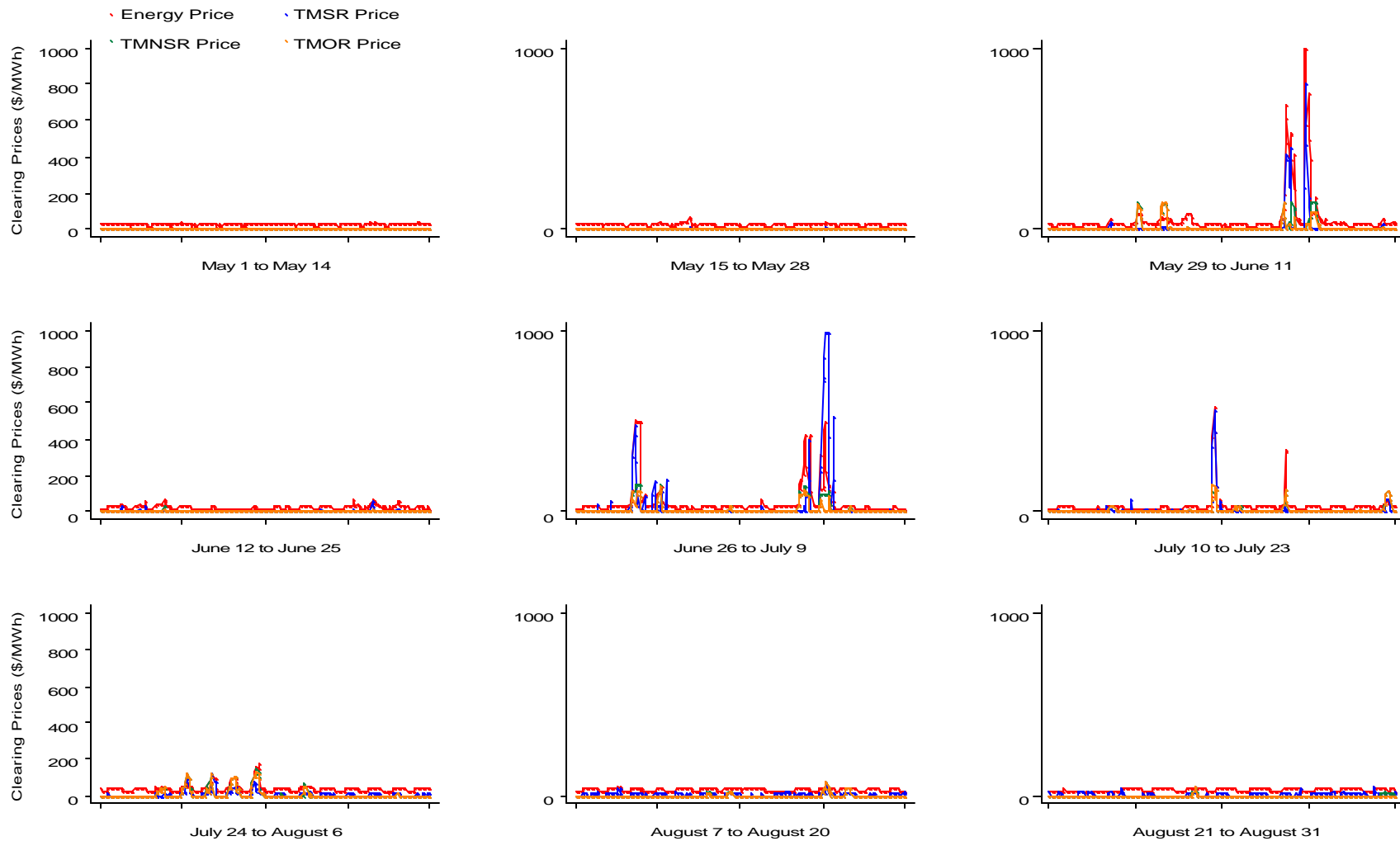
## TMNSR Clearing Price and System Load: May to August



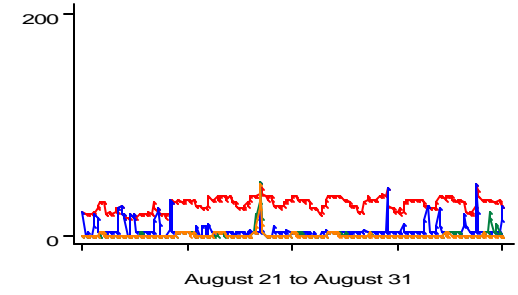
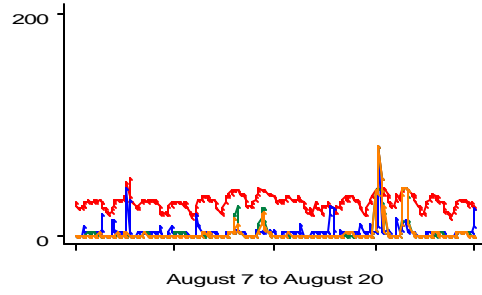
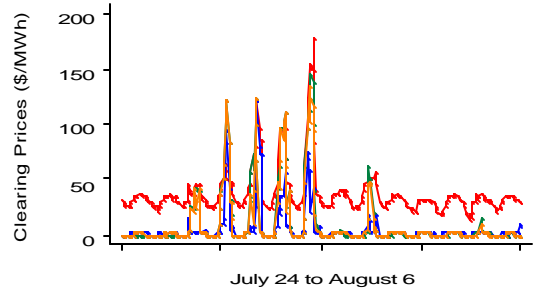
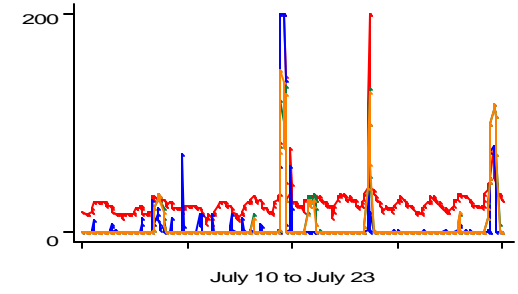
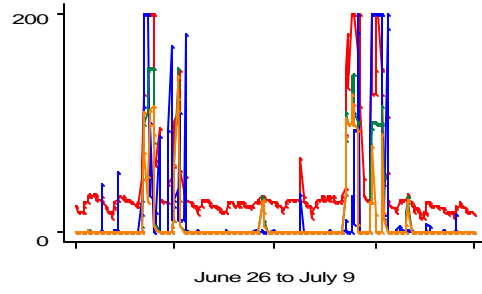
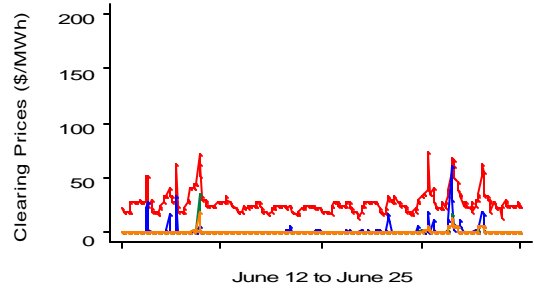
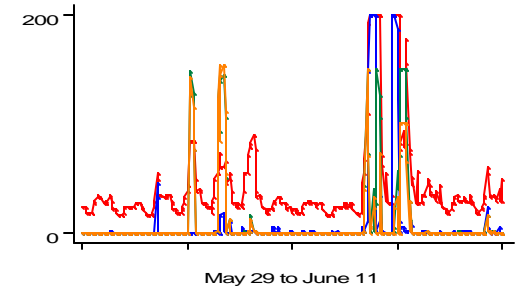
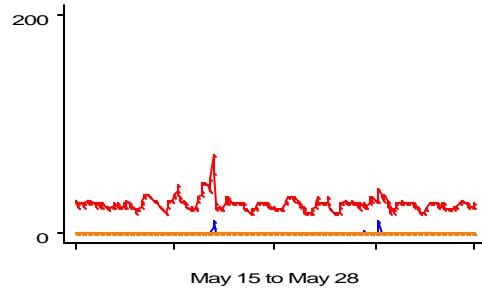
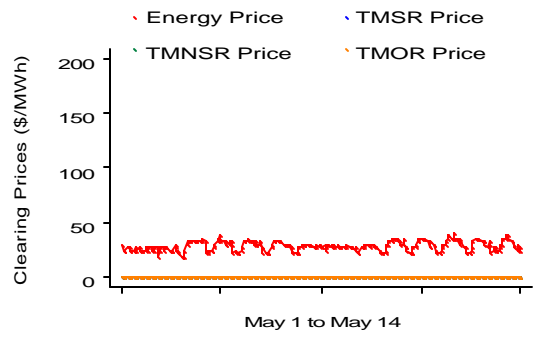
**TMOR Clearing Price and System Load: May to August**



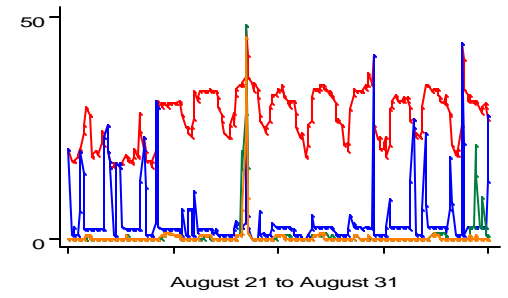
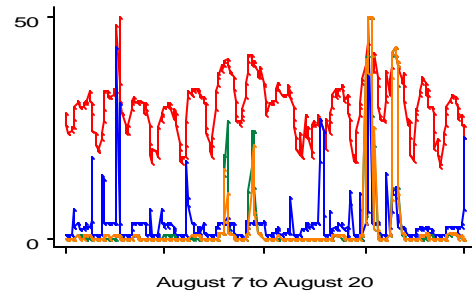
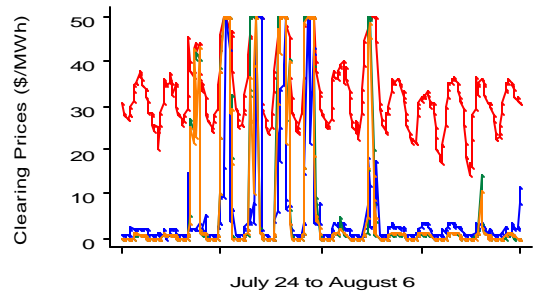
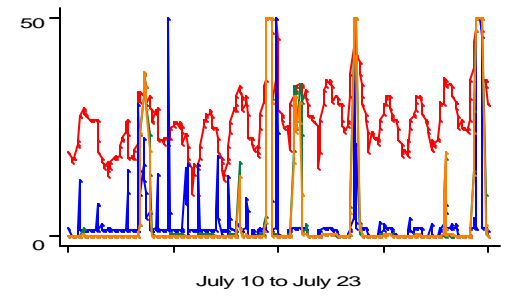
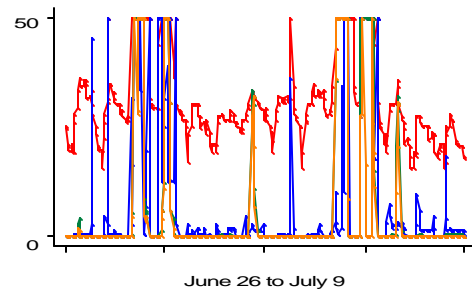
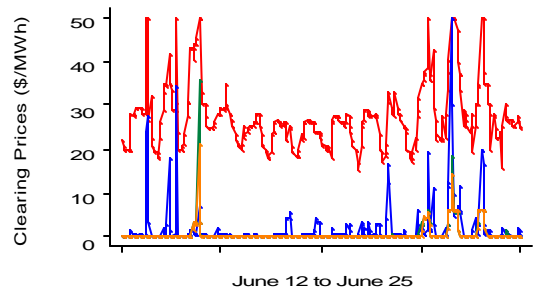
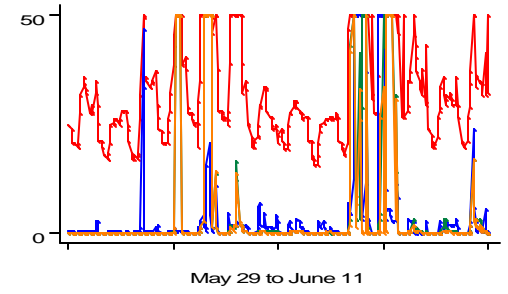
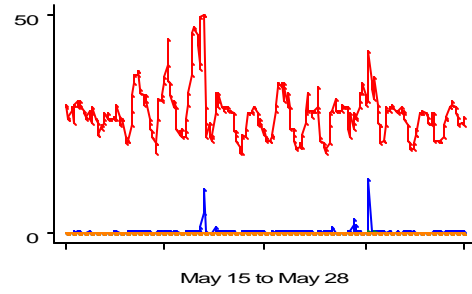
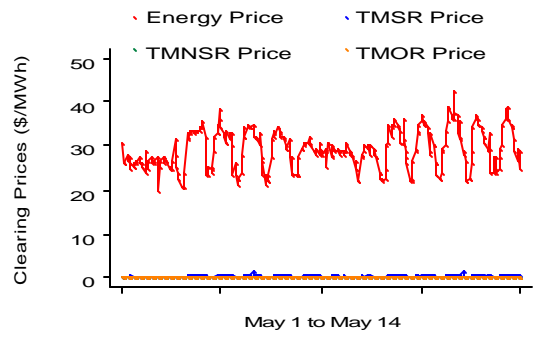
**TMOR Clearing Price and System Load: May to August**



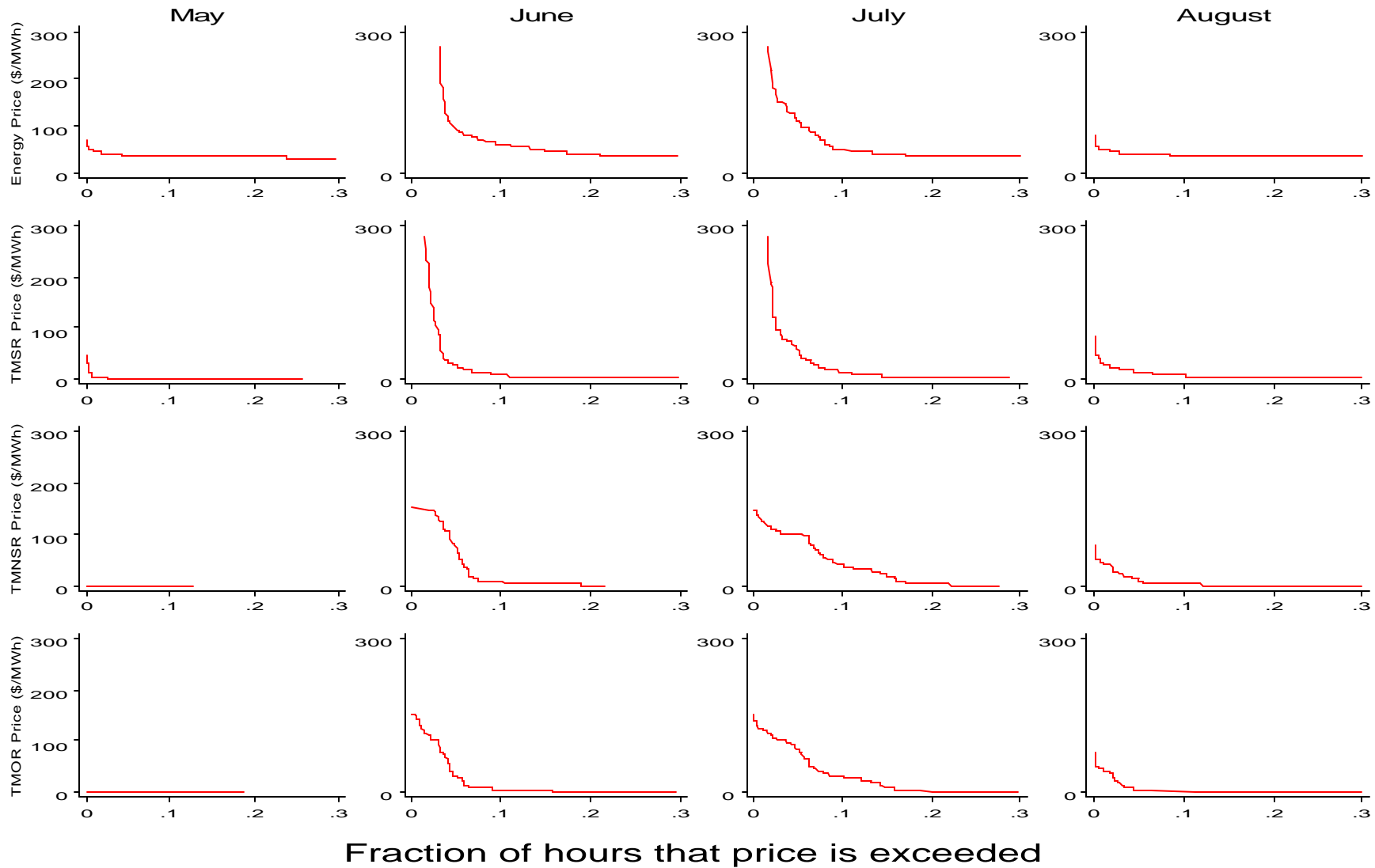
Clearing Prices: May to August

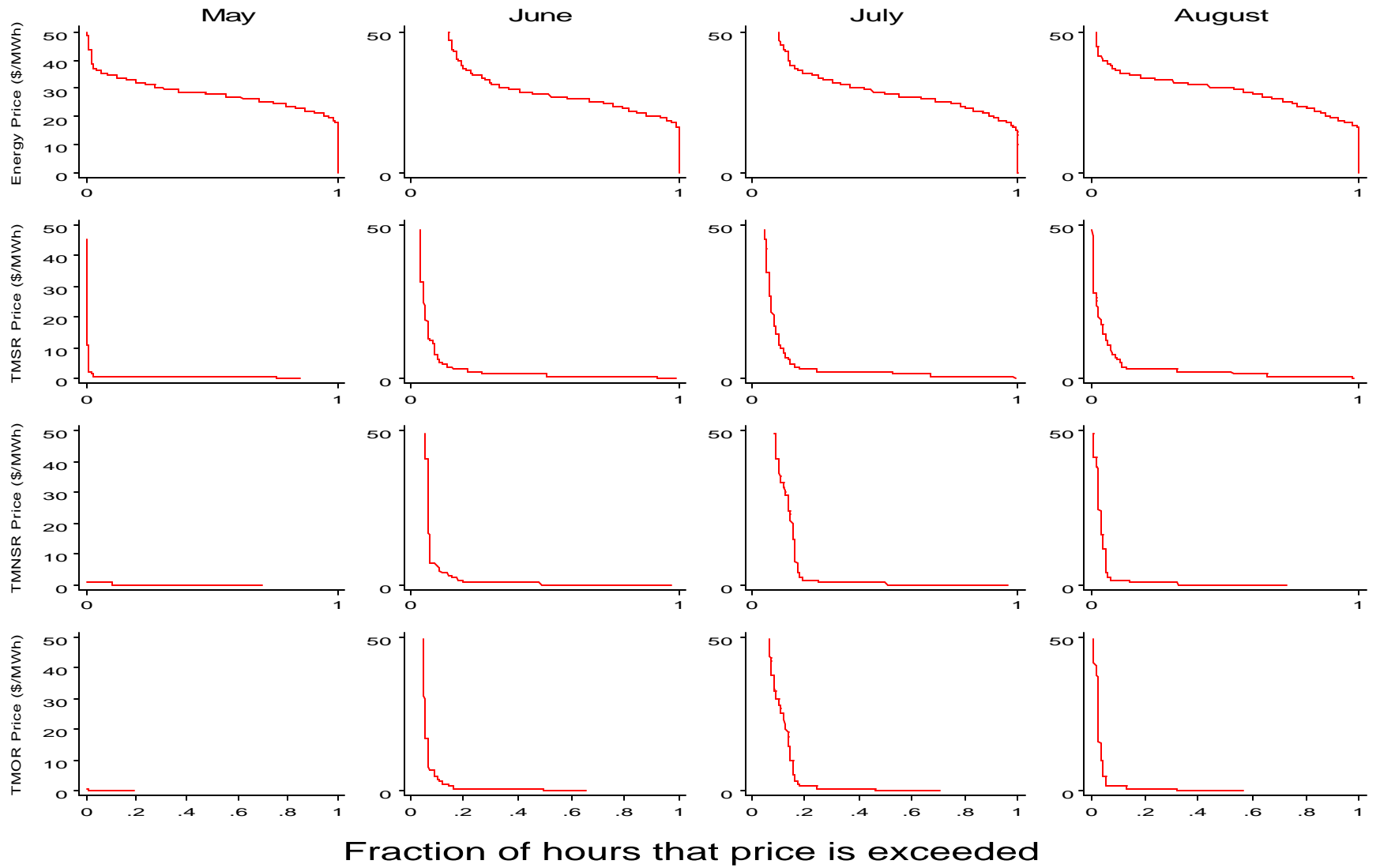


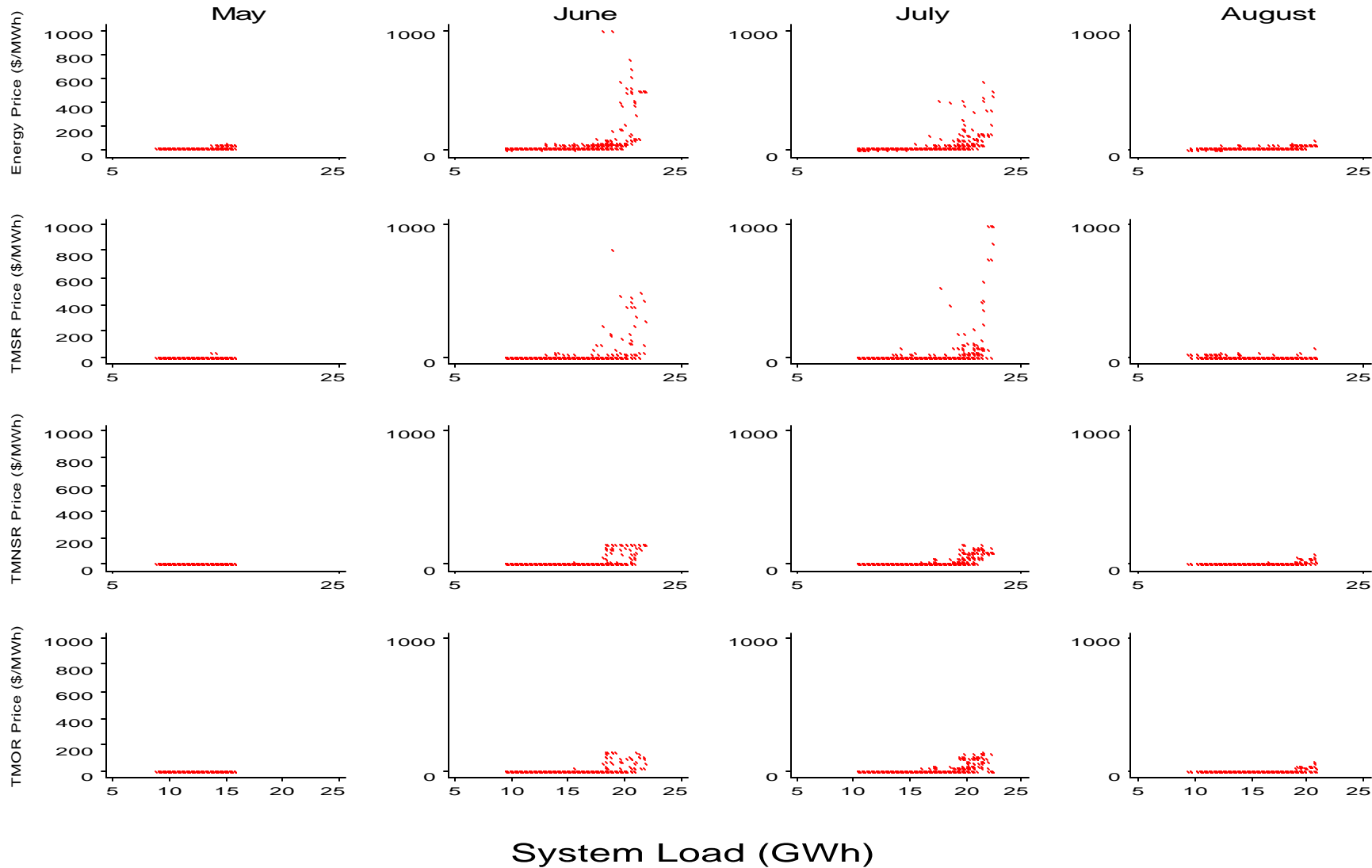
## Clearing Prices: May to August



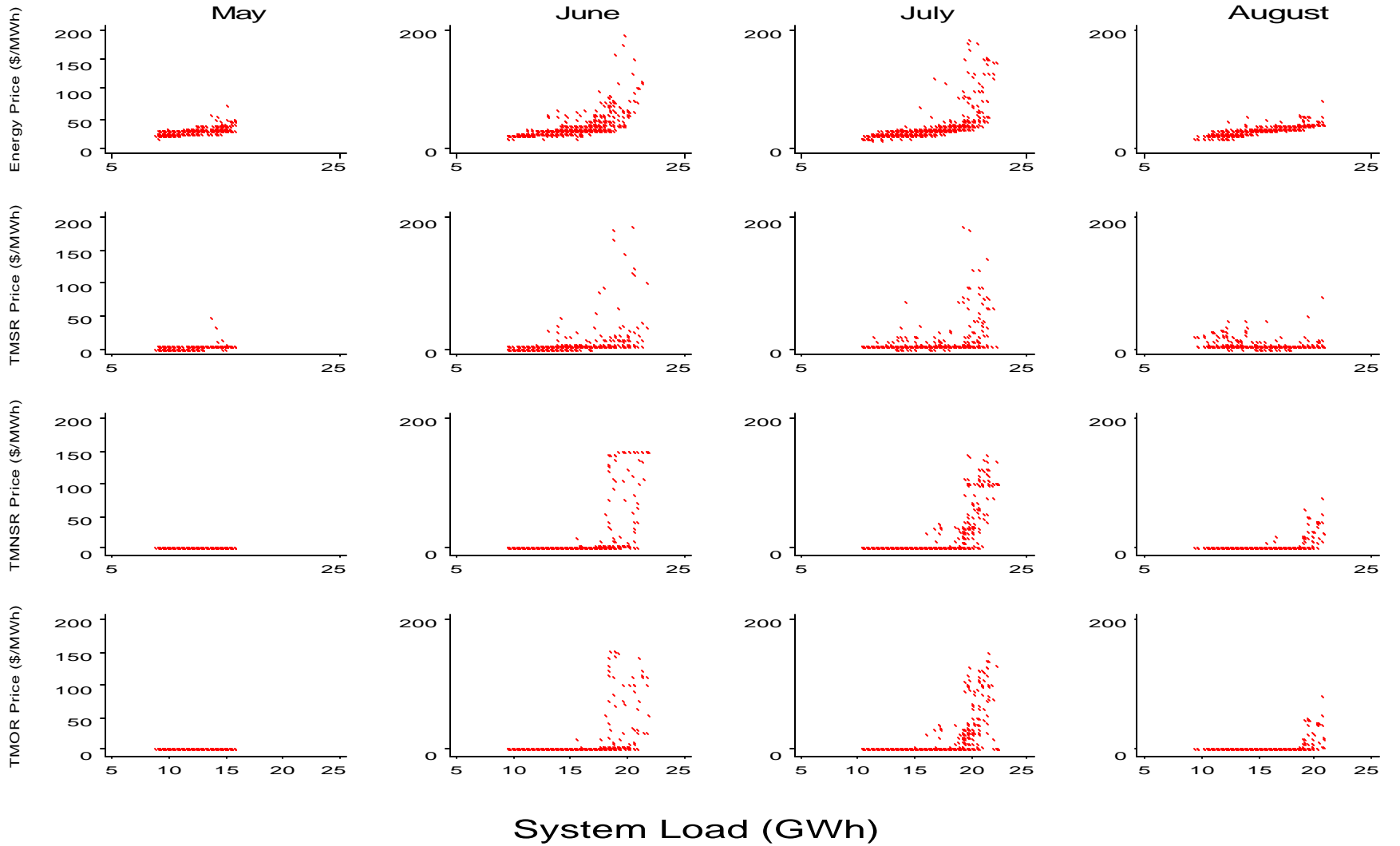
## Clearing Prices: May to August



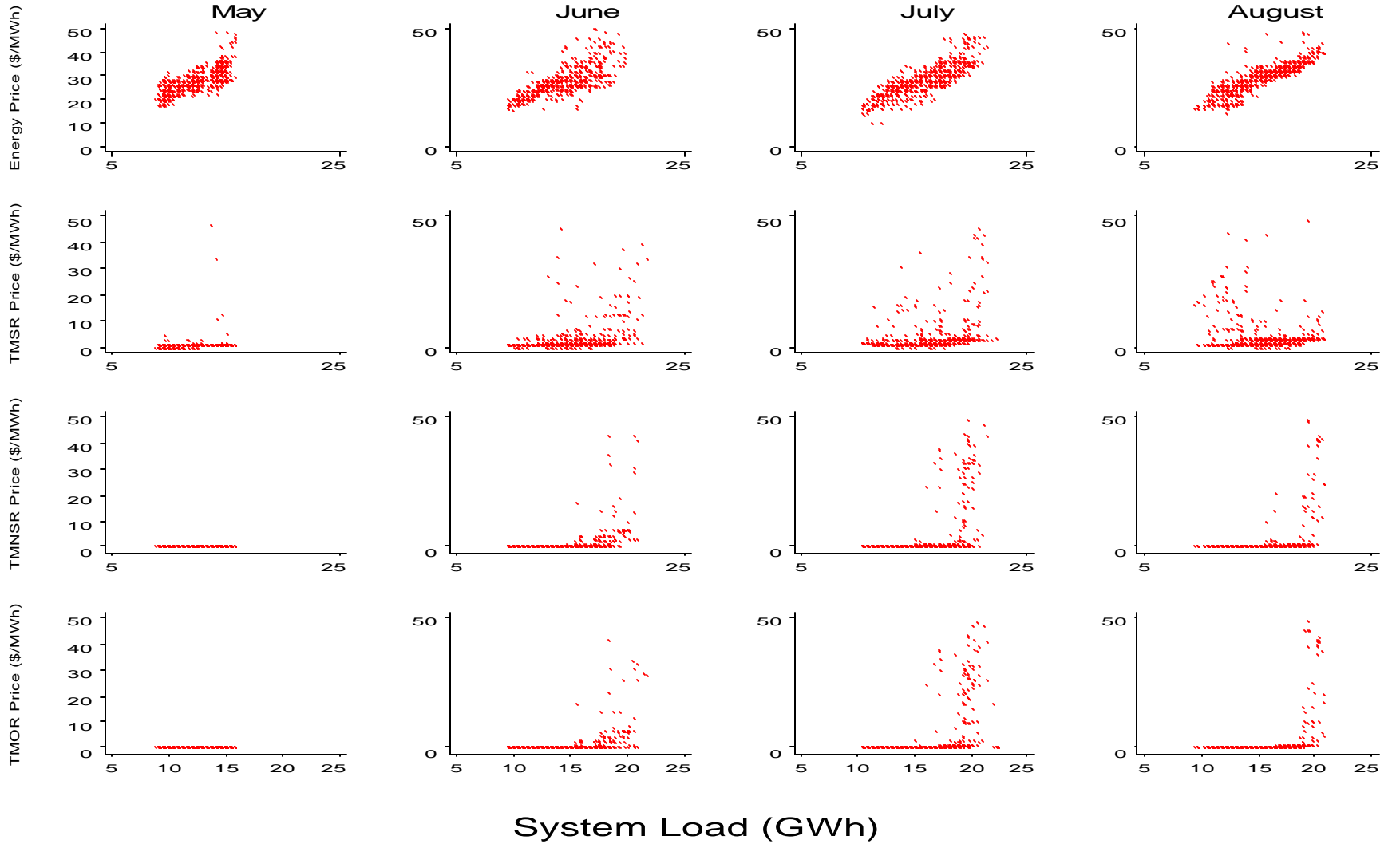




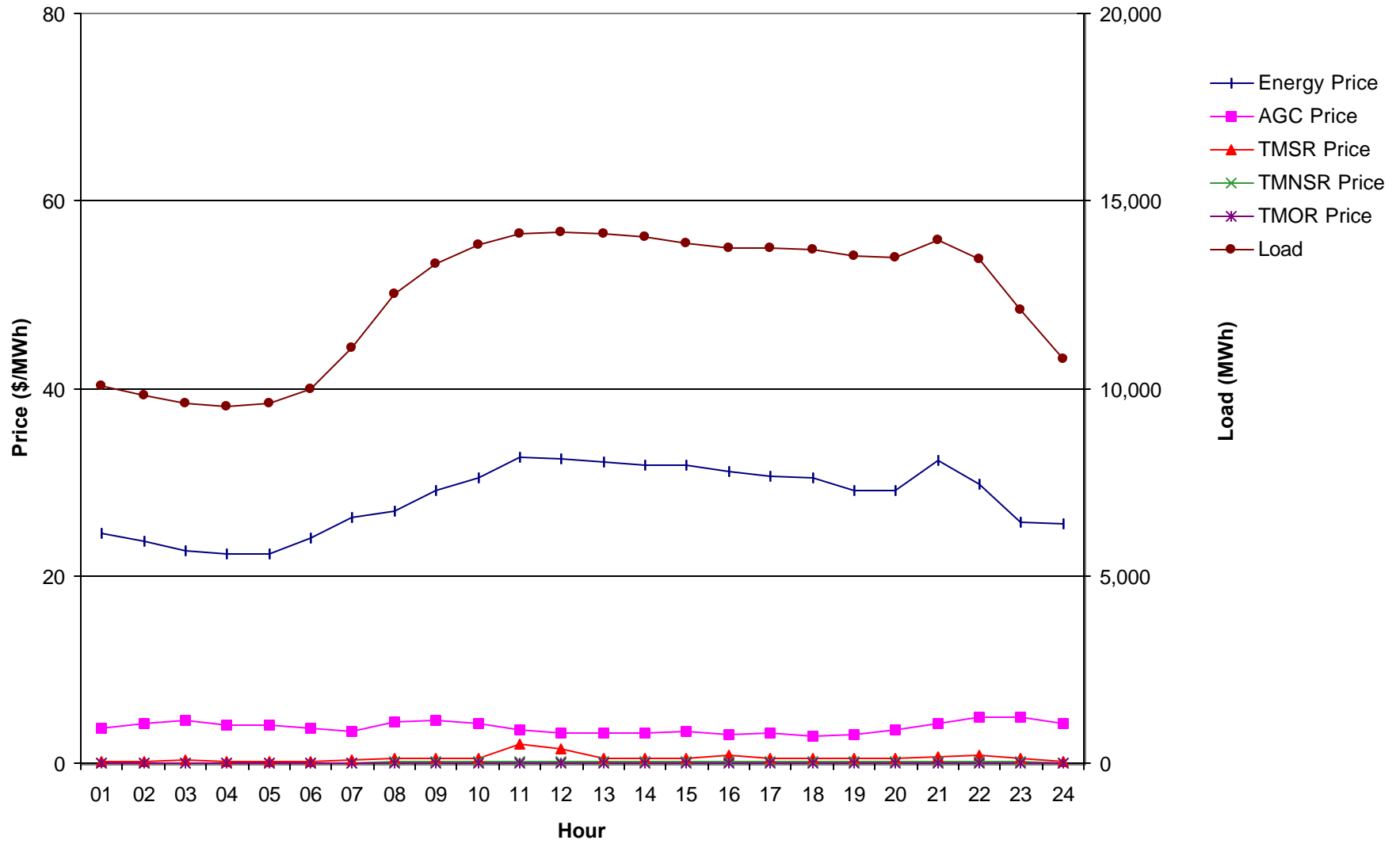
Prices above \$200/MWh are not graphed



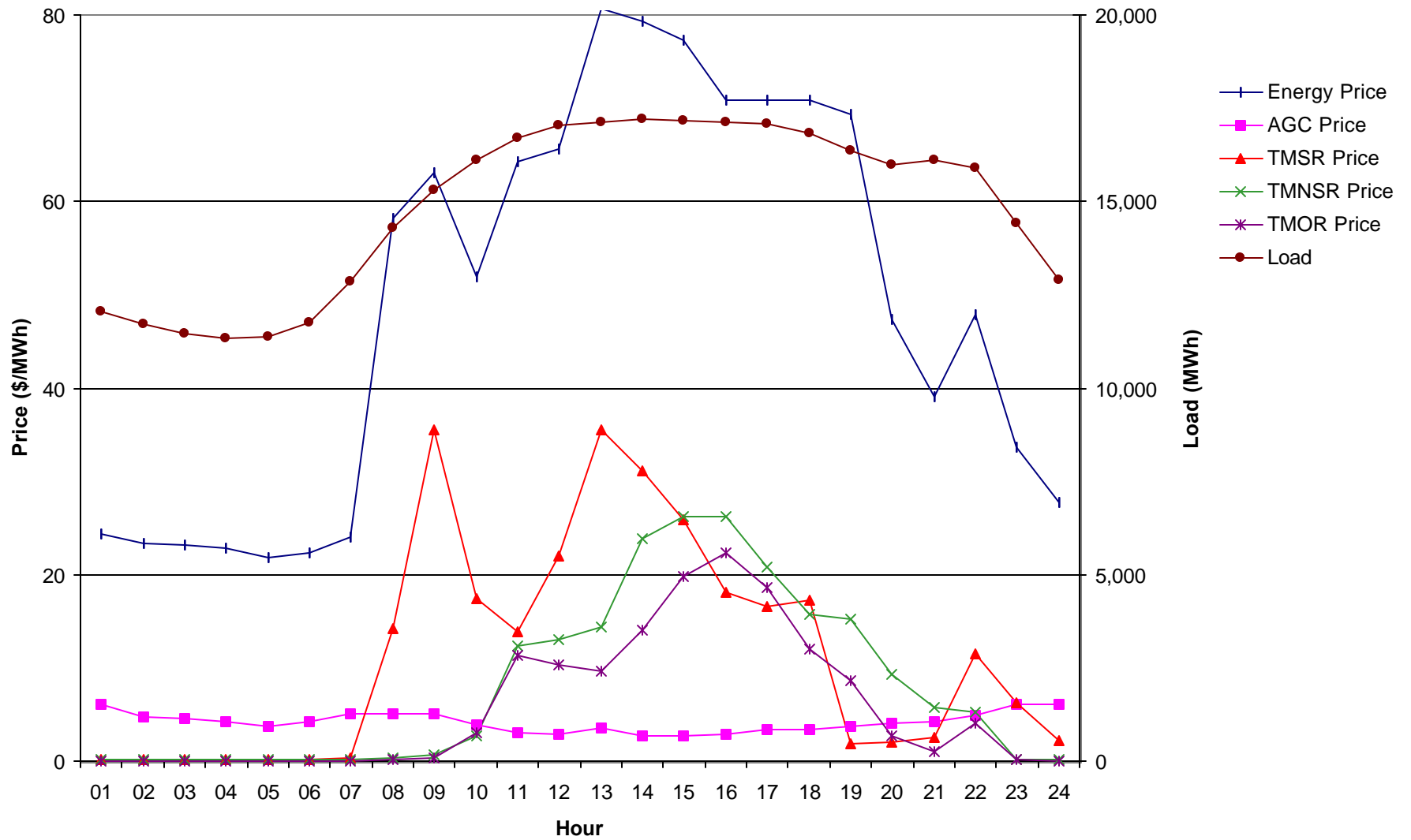
Prices above \$50/MWh are not graphed



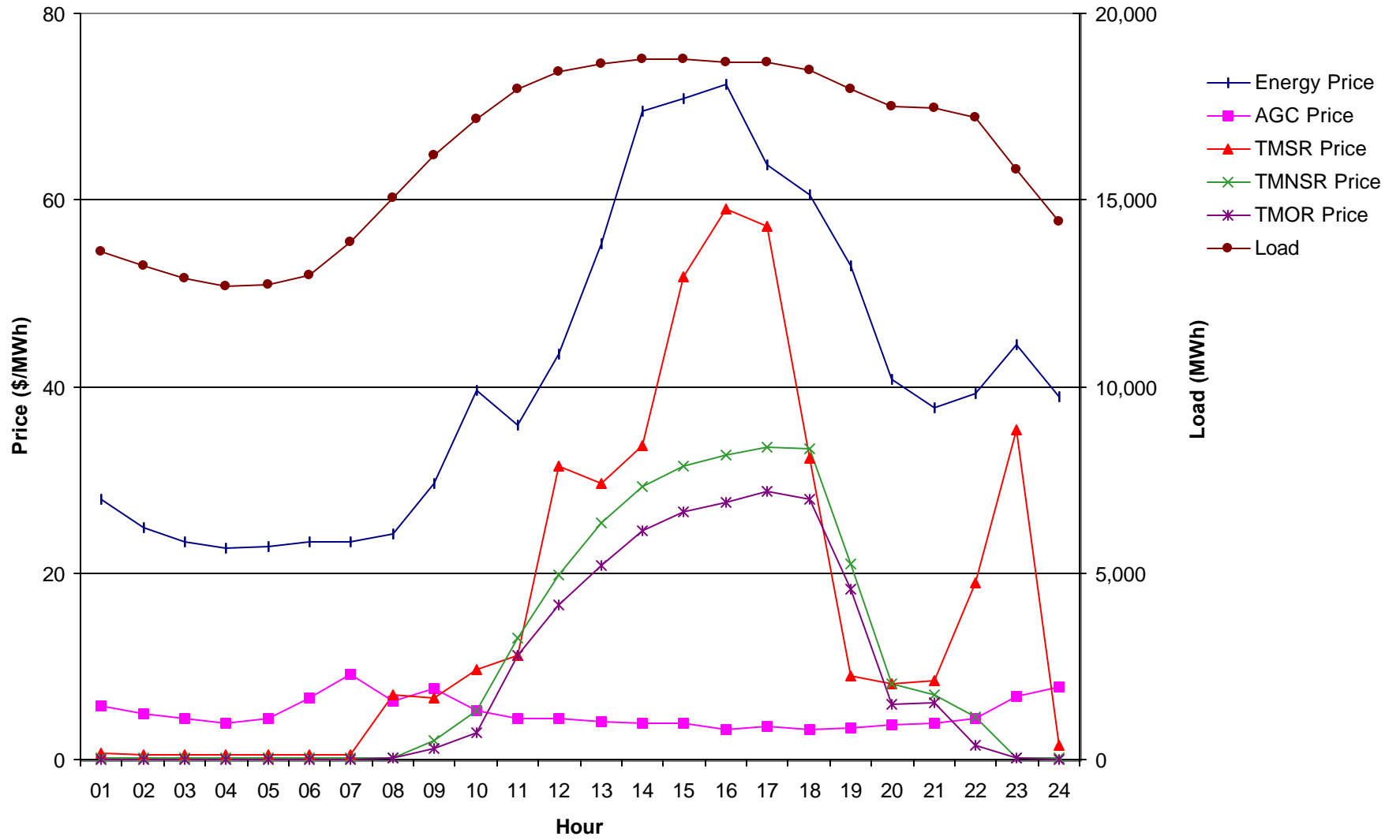
### May Hourly Averages



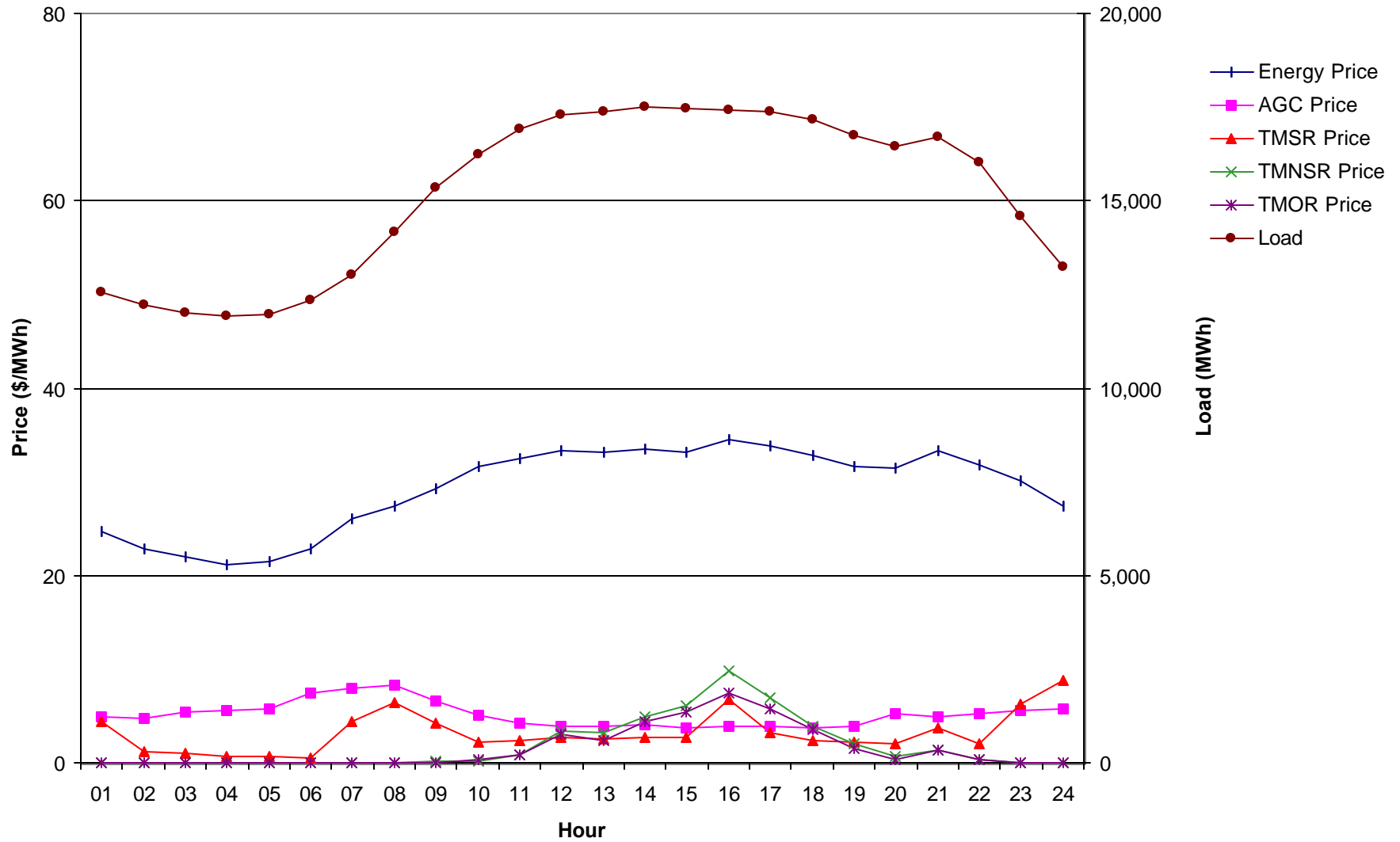
### June Hourly Averages



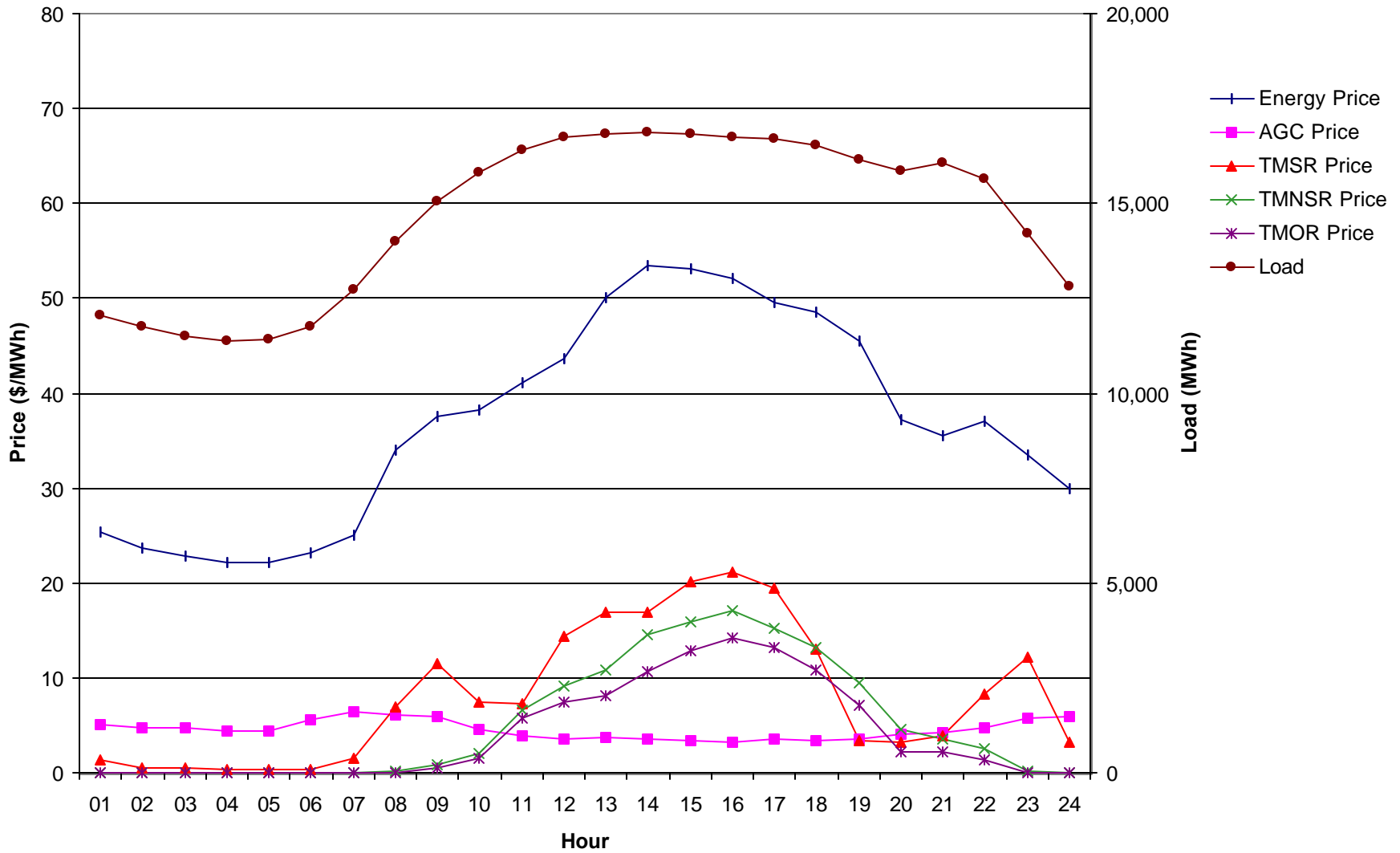
### July Hourly Averages



### August Hourly Averages



Houly Averages 5-1 through 8-31



### Count of hours for which condition is satisfied

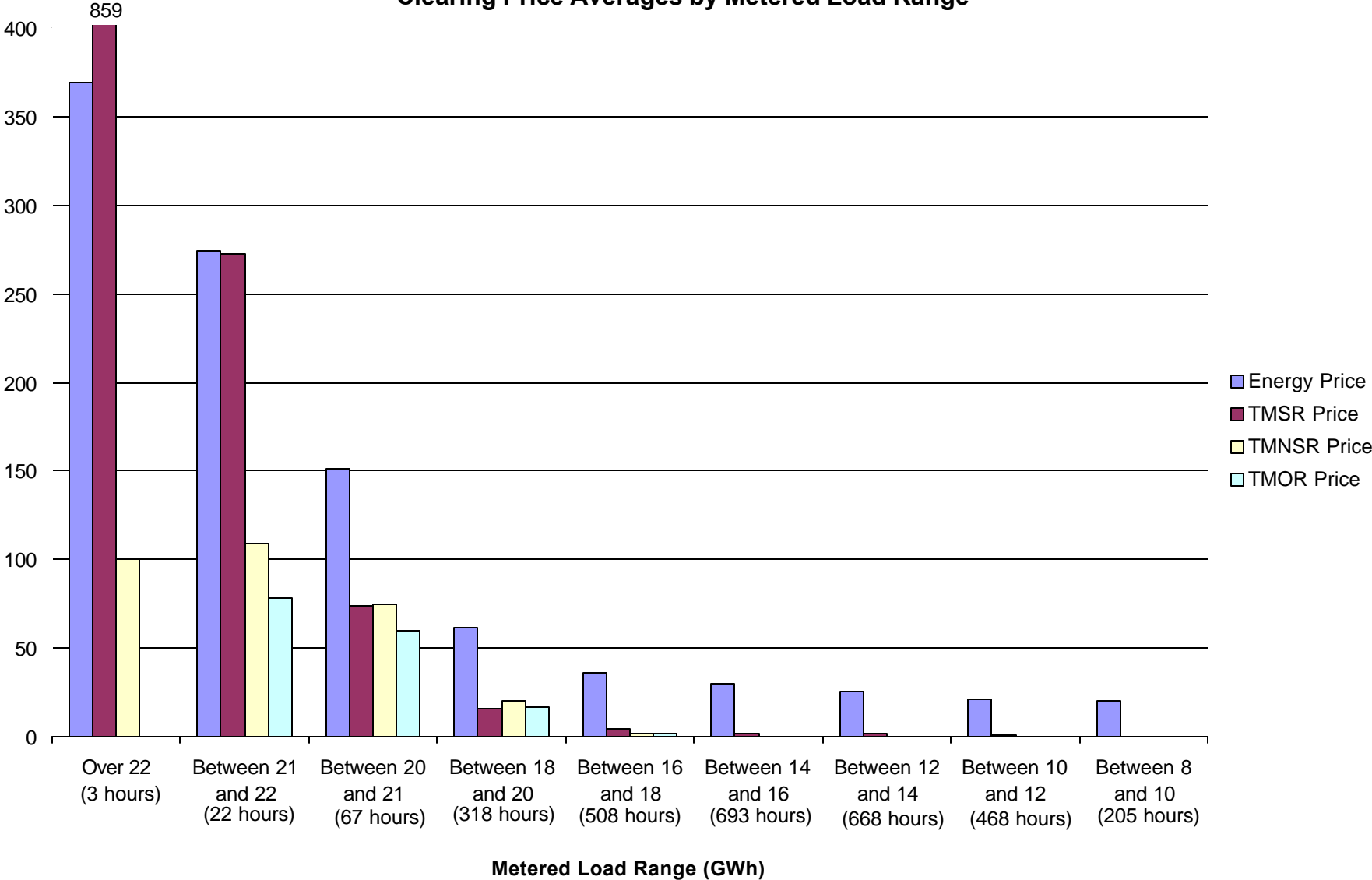
	Total Hours	Energy Price = 0	TMSR Price = 0	TMNSR Price = 0	TMOR Price = 0	Energy Price > 100	TMSR Price > 100	TMNSR Price > 100	TMOR Price > 100	Load < 12000	Load > 20000
All Hours	2952	0	141	474	1398	73	40	64	41	619	127
All Hours in May	744	0	115	225	606	0	0	0	0	317	0
All Hours in June	720	0	6	17	247	33	21	31	17	144	37
All Hours in July	744	0	8	27	223	40	19	33	24	60	72
All Hours in August	744	0	12	205	322	0	0	0	0	98	18
Peak Hours (09 to 22)	1722	0	15	99	370	68	37	64	41	63	127
Peak Hours in May	434	0	4	44	301	0	0	0	0	58	0
Peak Hours in June	420	0	5	4	6	32	20	31	17	3	37
Peak Hours in July	434	0	1	8	3	36	17	33	24	1	72
Peak Hours in August	434	0	5	43	60	0	0	0	0	1	18
Off Peak Hours (23 to 08)	1230	0	126	375	1028	5	3	0	0	556	0
Off Peak Hours in May	310	0	111	181	305	0	0	0	0	259	0
Off Peak Hours in June	300	0	1	13	241	1	1	0	0	141	0
Off Peak Hours in July	310	0	7	19	220	4	2	0	0	59	0
Off Peak Hours in August	310	0	7	162	262	0	0	0	0	97	0

### Summary Statistics

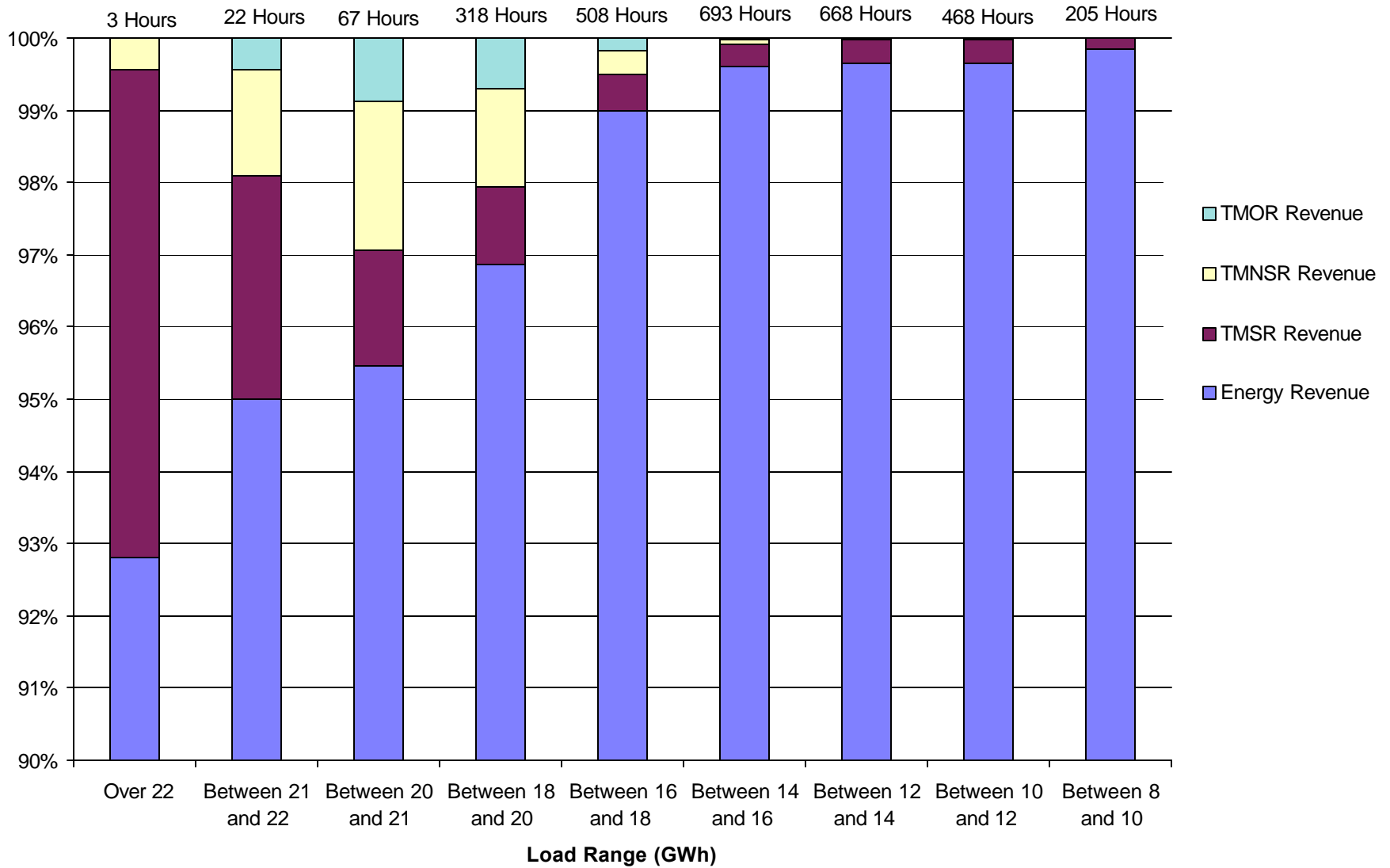
	Maximum Energy Clearing Price	Minimum Energy Clearing Price	Average Energy Clearing Price	Maximum TMSR Clearing Price	Minimum TMSR Clearing Price	Average TMSR Clearing Price	Maximum TMNSR Clearing Price	Minimum TMNSR Clearing Price	Average TMNSR Clearing Price
All Hours	1003.21	9.56	36.84	986.07	0	8.08	150	0	5.26
All Hours in May	72.04	17.1	28.20	46.44	0	0.56	0.63	0	0.10
All Hours in June	1003.21	15.56	49.18	807.34	0	11.48	150	0	8.03
All Hours in July	572.54	9.56	41.14	986.07	0	17.26	145.71	0	11.15
All Hours in August	80.39	13.76	29.25	80.39	0	3.15	80.39	0	1.84
Peak Hours (09 to 22)	1003.21	16.23	44.47	986.07	0	11.92	150	0	8.96
Peak Hours in May	72.04	20.79	30.93	46.44	0	0.75	0.63	0	0.15
Peak Hours in June	1003.21	20.49	64.19	807.34	0	17.94	150	0	13.67
Peak Hours in July	572.54	16.23	50.80	986.07	0	26.21	145.71	0	19.04
Peak Hours in August	80.39	16.74	32.59	80.39	0	2.97	80.39	0	3.12
Off Peak Hours (23 to 08)	999.04	9.56	26.17	521.59	0	2.72	1.98	0	0.08
Off Peak Hours in May	34.08	17.1	24.39	3.89	0	0.29	0.22	0	0.04
Off Peak Hours in June	999.04	15.56	28.17	234.26	0	2.43	1.98	0	0.13
Off Peak Hours in July	425.93	9.56	27.62	521.59	0	4.74	1.04	0	0.12
Off Peak Hours in August	50.26	13.76	24.56	44.22	0	3.40	0.3	0	0.04

	Maximum TMOR Clearing Price	Minimum TMOR Clearing Price	Average TMOR Clearing Price	Maximum System Load	Minimum System Load	Average System Load	Average TMSR Designations	Average TMNSR Designations	Average TMOR Designations
All Hours	154	0	4	22,428	8,843	14,665	505	736	500
All Hours in May	0.41	0	0.01	15,799	8,843	12,419	418	628	372
All Hours in June	153.96	0	5.76	21,840	9,387	14,836	532	777	502
All Hours in July	149.45	0	9.17	22,428	10,273	16,234	538	760	549
All Hours in August	80.39	0	1.51	20,819	9,357	15,180	533	780	577
Peak Hours (09 to 22)	154	0	7	22,428	10,638	16,304	551	820	515
Peak Hours in May	0.41	0	0.02	15,799	10,638	13,792	477	694	406
Peak Hours in June	153.96	0	9.85	21,840	11,098	16,568	572	832	530
Peak Hours in July	149.45	0	15.70	22,428	11,293	18,001	591	852	545
Peak Hours in August	80.39	0	2.59	20,819	11,381	16,862	564	902	580
Off Peak Hours (23 to 08)	1	0	0	18,558	8,843	12,356	441	619	479
Off Peak Hours in May	0.06	0	0.00	14,174	8,843	10,490	336	537	325
Off Peak Hours in June	0.58	0	0.04	18,199	9,387	12,412	477	700	463
Off Peak Hours in July	0.95	0	0.03	18,558	10,273	13,728	465	630	554
Off Peak Hours in August	0.39	0	0.01	17,239	9,357	12,809	488	609	573

**Clearing Price Averages by Metered Load Range**



### Percentages of Revenue by Metered Load Range



**Number of Hours that Reserve Prices Equaled the Energy Price\***

DAY	TMSR Price = Energy Price	TMNSR Price = Energy Price	TMOR Price = Energy Price
27-Jun-99	1		
28-Jun-99	1		
02-Jul-99		1	2
05-Jul-99	2		
12-Jul-99		4	5
14-Jul-99	1		
17-Jul-99			2
19-Jul-99			1
23-Jul-99		2	2
26-Jul-99		2***	1
27-Jul-99		1	1
28-Jul-99			2
29-Jul-99		1	3
30-Jul-99			1
01-Aug-99			1
15-Aug-99	1		
16-Aug-99	1		
17-Aug-99	1	4	4
18-Aug-99		5	4
20-Aug-99	1		
21-Aug-99	4		
22-Aug-99	8		
23-Aug-99	1***		
25-Aug-99	1		1
28-Aug-99	1		
29-Aug-99	1		
30-Aug-99	1		
31-Aug-99	2		
<b>Total</b>	<b>28</b>	<b>20</b>	<b>30</b>

\*Most of the hours in this table represent hours when the bid cap limited the reserve prices. When the bid cap was first implemented it applied to five-minute prices, not hourly prices. If the cap was not binding for every five minute interval in an hour the reserve price averaged out to less than the energy price, so these hours are not counted in this table.

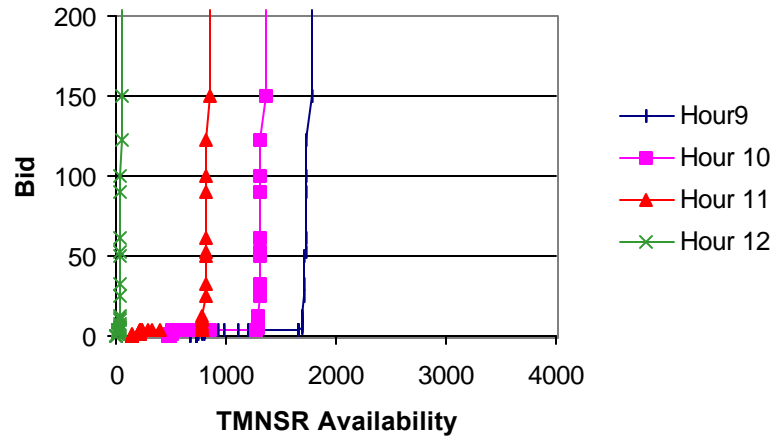
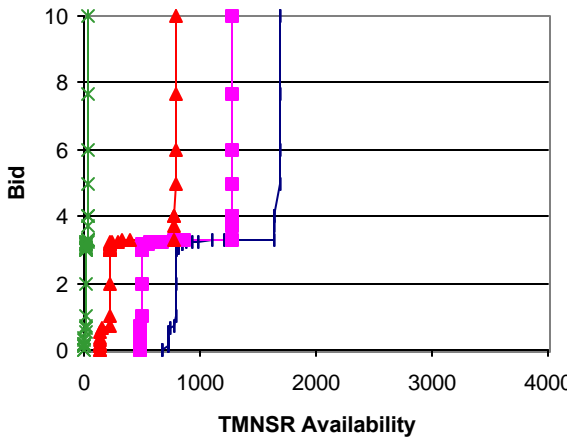
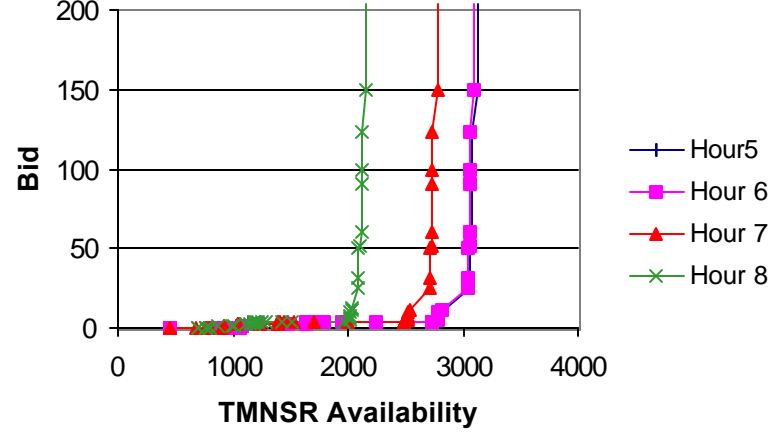
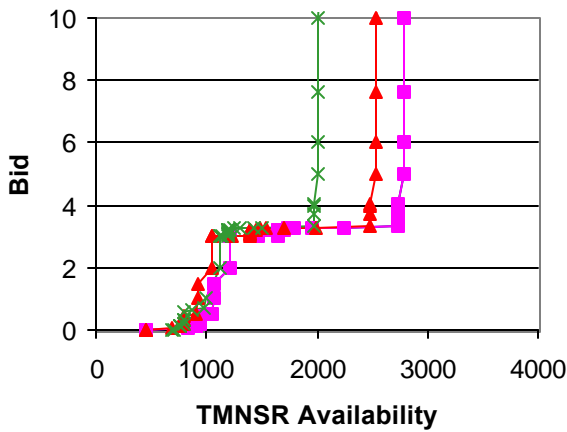
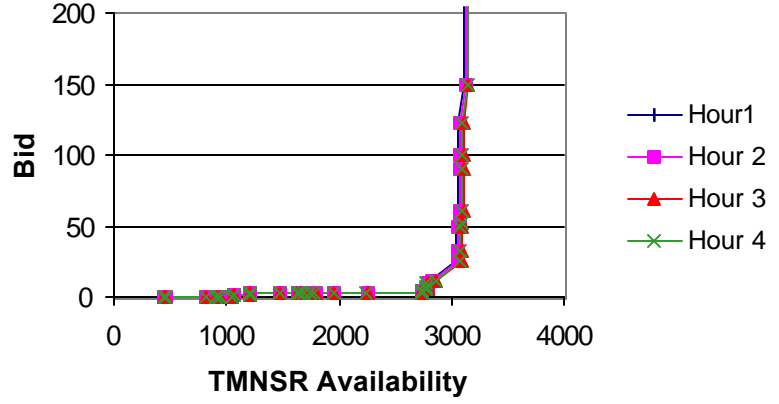
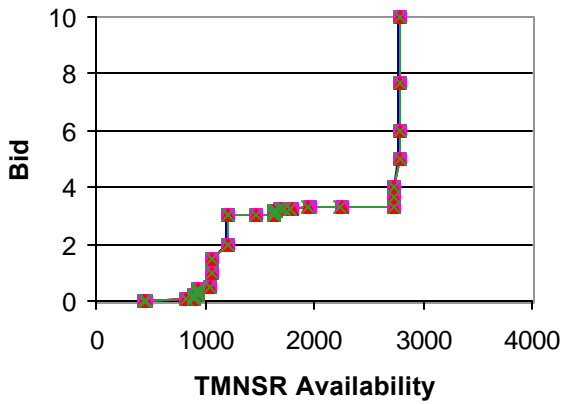
**Number of Hours that Reserve Prices Exceeded the Energy Price\*\***

DAY	TMSR Price > Energy Price	TMNSR Price > Energy Price	TMOR Price > Energy Price
01-Jun-99		3	3
02-Jun-99		8	8
07-Jun-99		1	1
08-Jun-99		5	4
23-Jun-99	1		
26-Jun-99	1		
29-Jun-99	3	3	2
06-Jul-99	10		
13-Jul-99	1		
19-Jul-99		1	1
23-Jul-99	2	5	5
27-Jul-99	3	5	5
28-Jul-99	1	2	2
29-Jul-99		2	2
01-Aug-99		1	
<b>Total</b>	<b>22</b>	<b>36</b>	<b>33</b>

\*\*Some hours in this table occur after the bid cap was implemented on June 27. Occasionally the ISO revised energy prices downward to correct for effects of external transaction on the clearing price. If such a revision took place more than 5 days after the close of the market then the ISO was unable to revise reserve prices downward accordingly.

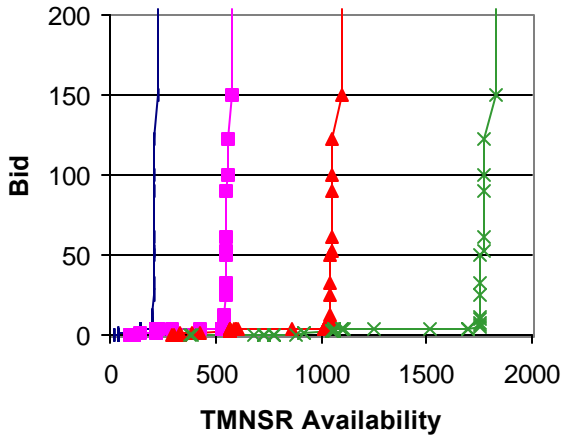
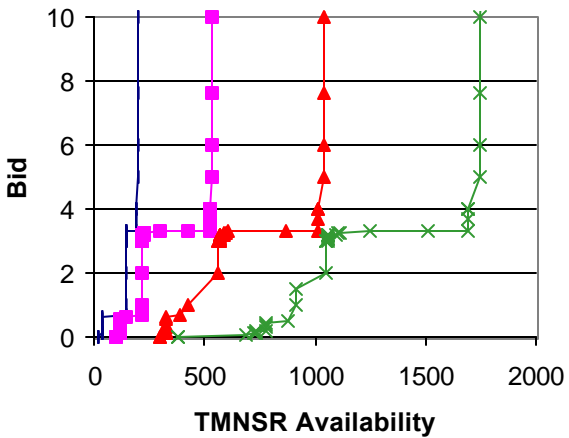
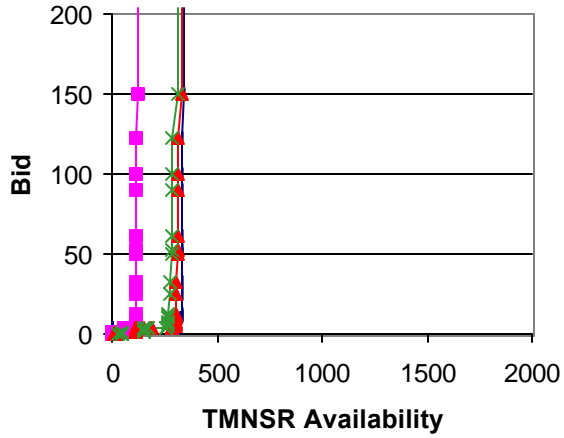
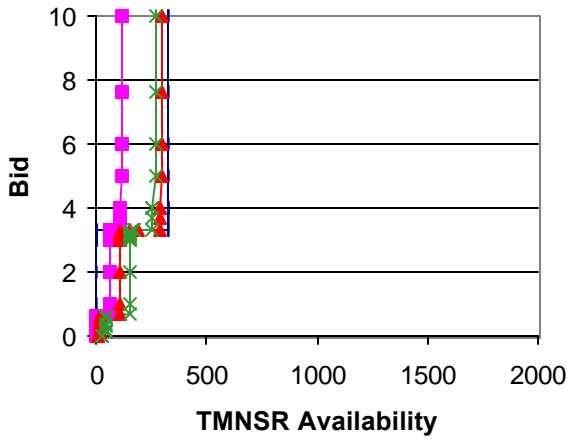
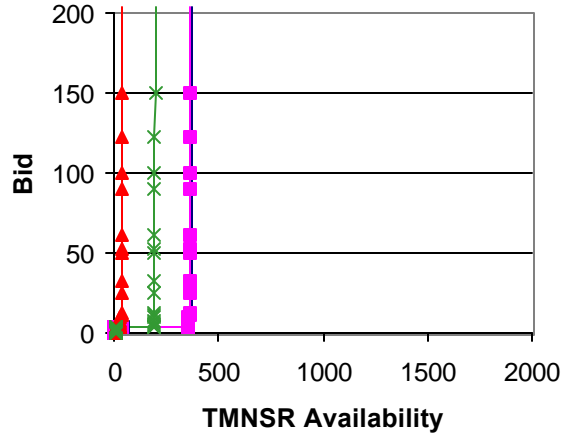
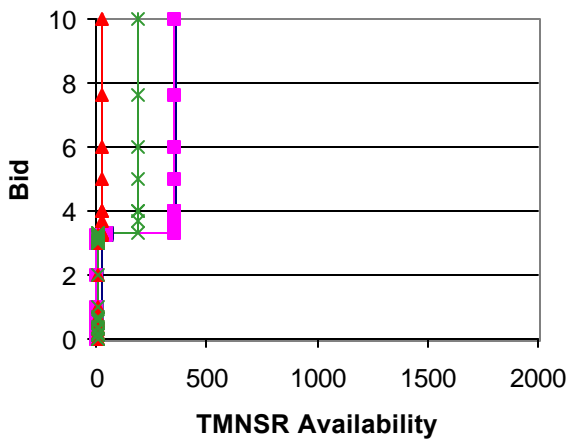
\*\*\*Reserve prices that were one cent more than the energy price due to rounding error have been included in the reserve price equals energy price table.

# Estimated Aggregate Bids into the TMNSR Market 6/7/1999 Hours 1-12

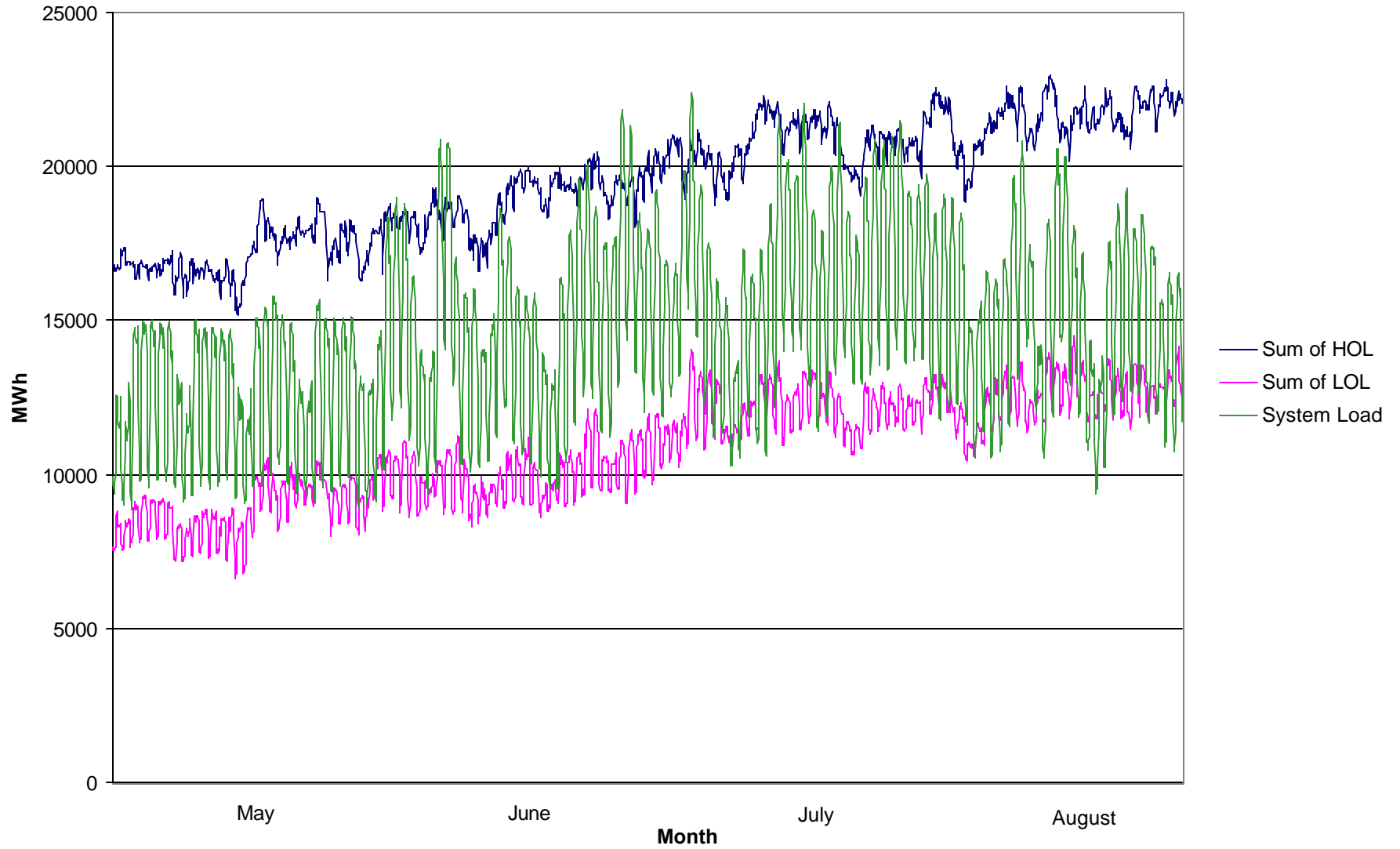


Available quantity bid for each participant is found by taking HOL - Generation - TMSR Designation.  
 The bids of participants that rarely are given TMNSR designations despite bids lower than the clearing price are excluded.

# Estimated Aggregate Bids into the TMNSR Market 6/7/1999 Hours 13-24



### Load and Operating Limits: May - August



### Quantity Designated in TMNSR and TMOR markets by asset type

Asset Type	Total TMNSR designations (MWh)	TMNSR designations when TMNSR bid is at least TMNSR price (MWh)	Share of total TMNSR designations when TMNSR bid is at least TMNSR price	TMNSR designations when TMNSR bid = 0 (MWh)	Share of total TMNSR designations when bid = 0
Coal and Coal/Oil	4,882	638	0.13	559	0.11
Composite	956	203	0.21	2	0.00
Diesel Oil	38,274	2,469	0.06	14,426	0.38
Hydro: Non-Run	226,124	89,162	0.39	5,347	0.02
Hydro: Run of River	3,838	815	0.21	422	0.11
Jet Fuel	1,013,102	47,064	0.05	803,368	0.79
Nuclear	0	0		0	
Oil, Gas, and Oil/Gas	828,196	35,762	0.04	736,816	0.89
Wood/Refuse	162	4	0.02	103	0.63
Not labled	51,023	1,890	0.04	48,599	0.95
<b>Total</b>	<b>2,166,557</b>	<b>178,007</b>	<b>0.08</b>	<b>1,609,641</b>	<b>0.74</b>

Asset Type	Total TMOR designations (MWh)	TMOR designations when TMOR bid is at least TMOR price (MWh)	Share of total TMOR designations when TMOR bid is at least TMOR price	TMOR designations when TMOR bid = 0 (MWh)	Share of total TMOR designations when bid = 0
Coal and Coal/Oil	42,299	765	0.02	40,517	0.96
Composite	852	76	0.09	610	0.72
Diesel Oil	7,398	588	0.08	1,407	0.19
Hydro: Non-Run	119,772	40,866	0.34	852	0.01
Hydro: Run of River	945	381	0.40	8	0.01
Jet Fuel	471,221	5,755	0.01	427,136	0.91
Nuclear	0	0		0	
Oil, Gas, and Oil/Gas	813,202	22,769	0.03	713,815	0.88
Wood/Refuse	1,178	8	0.01	1,037	0.88
Not labled	15,077	67	0.00	14,840	0.98
<b>Total</b>	<b>1,471,944</b>	<b>71,275</b>	<b>0.05</b>	<b>1,200,222</b>	<b>0.82</b>

### Revenue\* in TMNSR and TMOR markets by asset type

Asset Type**	Share of total TMNSR revenue when TMNSR bid is at least TMNSR Price	Share of total TMNSR revenue when TMNSR bid = 0	Share of total TMOR revenue when TMOR bid is at least TMOR price	Share of total TMOR revenue when TMOR bid = 0
Coal and Coal/Oil	0.08	0.00	0.07	0.60
Composite	0.35	0.00	0.35	0.17
Diesel Oil	0.17	0.22	0.17	0.04
Hydro: Non-Run	0.15	0.01	0.14	0.00
Hydro: Run of River	0.38	0.01	0.53	0.00
Jet Fuel	0.04	0.70	0.04	0.59
Oil, Gas, and Oil/Gas	0.02	0.76	0.09	0.42
Wood/Refuse	0.02	0.01	0.02	0.05
Not labled	0.62	0.13	0.22	0.00
Total	0.09	0.40	0.11	0.23

\*Revenue is estimated by assuming that all bidders who are given designations despite bids higher than the clearing price receive uplift.

\*\*Nuclear units did not receive any revenue in either market

### Revenue\* in TMNSR and TMOR markets by Lead Participant

Bidder Number	Share of TMNSR revenue when TMNSR bid is at least TMNSR price	Number of hours when TMNSR bid is at least TMNSR price (out of 2952)**	Share of TMOR revenue when TMOR bid is at least TMOR price	Number of hours when TMOR bid is at least TMOR price (out of 2952)**
1	0.46	379	0.55	658
2	0.05	1006	0.01	800
3	0.05	40	0.36	37
4	0.00	642	0.00	65
5	0.63	293	0.52	339
6	0.03	404	0.00	3
7	0.00	0	0.00	0
Others	0.14	816	0.07	969
Total	0.19	3580	0.16	2871

\*Revenue is estimated by assuming that all bidders who are given designations despite bids higher than the clearing price receive uplift.

\*\*In some hours multiple participants who bid at least the clearing price are given designations, while in other hours the highest accepted bid is below the clearing price. Due to the averaging of 5 minute clearing prices into a single hourly clearing price a bidder may be setting the price for a portion of an hour despite having a bid that is less than the final clearing price.