

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Coram**

- 1. Dr. Pramod Deo, Chairperson**
- 2. Shri R.Krishnamoorthy, Member**
- 3. Shri S.Jayaraman, Member**
- 4. Shri V. S. Verma, Member**

**Petition No 137/2009  
(Suo-motu)**

**In the matter of**

Maintenance of Grid Discipline – Non -compliance of provisions of the Indian Electricity Grid Code by Uttar Pradesh Power Corporation Ltd during Jun 2009

**And in the matter of**

Uttar Pradesh Power Corporation Ltd, Lucknow

... **Respondent**

**ORDER**

In exercise of powers conferred under Section 178 of the Electricity Act, 2003 (the Act), the Central Electricity Regulatory Commission (the Commission) has specified the Indian Electricity Grid Code (the Grid Code). Paras 5.4.2(a) and 6.4.7 of the Grid Code, as amended by the Indian Electricity Grid Code (Amendment) Regulations, 2009, applicable from 1.4.2009, enjoin upon the State utilities to endeavor to restrict their net drawal from the grid to their respective drawal schedule whenever the system frequency is below 49.5 Hz. It has been further provided that the requisite load-shedding carried out manually when frequency falls below 49.2 Hz, to curtail over-drawal. Extracts of relevant paras of the Grid Code are reproduced below:

*“5.4.2 Manual Demand Disconnection (a) As mentioned elsewhere, the constituents shall endeavour to restrict their net drawal from the grid to within their respective drawl schedules whenever the system frequency is below 49.5 Hz. When the frequency falls below 49.2 Hz, requisite load shedding (manual) shall be carried out in the concerned State to curtail the over-drawal.”*

#### *6.4 Demarcation of responsibilities*

*7. Provided that the States, through their SLDCs, shall always endeavour to restrict their net drawal from the grid to within their respective drawal schedules, whenever the system frequency is below 49.5 Hz. When the frequency falls below 49.2 Hz, requisite load shedding shall be carried out in the concerned State(s) to curtail the over-drawal.”*

2. In keeping with the above noted provisions of the Grid Code, with effect from 1.4.2009, manual load shedding is to be carried out to curtail over-drawal when the grid frequency falls below 49.2 Hz.

3. Further, clause (1) of regulation 7 of the Central Electricity Regulatory Commission (Unscheduled Interchange charges and related matters) Regulations, 2009 (hereinafter “the UI charges regulations” ) prescribes the following limits on over-drawal volumes:

*(1) The over-drawal of electricity from the schedule by any beneficiary or a buyer during a time-block shall not exceed 12% of its scheduled drawal or 150 MW (whichever is lower) when frequency is below 49.5 Hz, and 3% on a daily aggregate basis.*

4. Clause (4) of regulation 7 of the UI charges regulations specifically provides as under:

*(4) Payment of Unscheduled Interchange Charges under regulation 5 and the Additional Unscheduled Interchange Charge under Regulation 7(3) above, shall be without prejudice to any action that may be considered appropriate under section 142 and section 149 of the Act for contravention of the over-drawal and under-generation limit specified in these regulations, for a time block when frequency is below 49.5 Hz.*

5. It has been reported by the Northern Regional Load Despatch Centre (NRLDC) that the respondent had, during the period from 11.6.2009 to 19.6.2009, over-drawn on several occasions from the grid, in violation of the above mentioned regulatory provisions. The details of the over-drawals are enclosed at Annexure I to this order.

6. With a view to curtailing over-drawal and ensuing grid discipline, NRLDC has, in consultation with the constituents of the region, evolved a scheme of issuing messages to the erring constituent. Following are the broad features of the scheme of issuing messages:

(a) 'A' message is issued an over-drawing constituent if the frequency is less than 49.5 Hz. and the UI volume is more than 150 MW or above 12% of the schedule and there is a downward trend in frequency.

(b) 'B' message is issued under the following conditions:

(i) Frequency is less than 49.2 Hz. and UI is more than 100 MW or above 10% of the schedule subject to minimum of 40 MW for than the last 10 minutes.

or

(ii) When UI is more than 200 MW for the last 5 minutes

Although it is not mandatory, generally 'B' messages are preceded by 'A' messages. However, in case of sudden increase in over-drawal by a constituent or sharp in the frequency or repeated instances of over-drawal at frequency below 49.20 Hz. 'B' message might be issued independent of 'A' messages and without waiting for the given time period.

(c) 'C' message is issued under the following conditions:

(i) Frequency is less than 49.2 Hz. and UI is more than 100 MW or above 10% of the schedule subject to minimum of 40 MW for than the last 20 minutes.

or

(ii) When UI is more than 200 MW for the last 15 minutes

or

- (iii) Repeated instances of over-drawal under frequency less than 49.20 Hz.

Although it is not mandatory, generally 'C' messages are preceded by 'B' messages. However, in case of sudden increase in over-drawal by a constituent or sharp in the frequency or repeated instances of over-drawal at frequency below 49.20 Hz. 'C' message might be issued independent of 'B' messages and without waiting for the given time period.

7. As per the report of NRLDC, as many as 46 "A" messages, 33 "B" messages and 13 "C" messages were issued during the relevant period. The details of "B" and "C" messages issued are enclosed at Annexure II to this order.

8. Prima Facie, the above acts of the respondent as such are in violation of the provisions of the Grid Code as well as the UI charges regulations and thereby the respondent is guilty of contravention of and non-compliance with the provisions of the Grid Code and the instructions of the Regional Load Despatch Centre.

9. Accordingly, the respondent is hereby directed to show cause as to why it should not be held guilty of contravention of and non-compliance with the provisions of the Grid Code and the UI charges regulations ibid separately on each occasion of

over-drawal at frequency below 49.2. Hz. and accordingly penalty under Section 142 of the Act be not imposed on it. The reply may be submitted latest by 31.7.2009.

10. The General Manager, NRLDC or his representative shall assist the Commission in the present proceedings.

11. List this petition for further directions on 6.8.2009.

Sd/=	Sd/=	Sd/=	Sd/=
[V. S. VERMA]	[S. JAYARAMAN]	[R. KRISHNAMOORTHY]	[DR. PRAMOD DEO]
MEMBER	MEMBER	MEMBER	CHAIRPERSON

**New Delhi, dated 14<sup>th</sup> July 2009**

## Annexure I

**Details of the time blocks when the respondent was overdrawing  
at frequency below 49.2 Hz**

<b>S.No</b>	<b>Date and Time</b>	<b>Frequency</b>	<b>Schedule</b>	<b>Drawal</b>	<b>Over-drawal</b>
1.	6.11.09 0:00	49.10	3518	4201	683
2.	6.11.09 0:05	48.95	3518	4252	734
3.	6.11.09 0:10	48.97	3642	4208	566
4.	6.11.09 0:15	49.14	3642	4202	559
5.	6.11.09 0:30	48.90	3643	4173	530
6.	6.11.09 0:35	48.94	3643	4223	580
7.	6.11.09 0:40	49.04	3643	4164	520
8.	6.11.09 5:15	49.16	3270	3777	507
9.	6.11.09 5:20	49.12	3270	3764	494
10.	6.11.09 6:15	49.06	3156	3536	380
11.	6.11.09 6:20	49.14	3156	3432	276
12.	6.11.09 10:15	49.16	3289	3733	444
13.	6.11.09 10:55	49.14	3323	4022	699
14.	6.11.09 11:10	49.06	3332	4213	881
15.	6.11.09 11:30	49.20	3332	4092	760
16.	6.11.09 12:15	49.14	3371	3953	582
17.	6.11.09 12:40	49.09	3405	4196	792
18.	6.11.09 13:35	48.95	3412	4042	630
19.	6.11.09 14:05	49.19	3417	4130	713
20.	6.11.09 14:10	49.19	3417	4071	654
21.	6.11.09 14:15	49.09	3417	4058	641
22.	6.11.09 14:20	48.95	3417	4130	713
23.	6.11.09 14:25	49.11	3417	4106	689
24.	6.11.09 14:30	49.07	3417	4028	610
25.	6.11.09 15:40	48.90	3338	3774	436
26.	6.11.09 15:45	49.19	3338	3755	417
27.	6.11.09 19:15	49.19	3237	3591	354
28.	6.11.09 21:30	49.02	3442	4010	568
29.	6.11.09 21:35	49.11	3442	4077	634
30.	6.11.09 22:20	49.12	3444	4077	634
31.	6.11.09 22:25	49.12	3445	4044	600
32.	6.11.09 23:05	48.90	3446	4229	783
33.	6.11.09 23:10	48.85	3550	4288	739

34.	6.11.09 23:15	49.16	3550	4356	806
35.	6.11.09 23:20	48.92	3550	4343	793
36.	6.11.09 23:25	49.19	3550	4404	855
37.	6.12.09 11:05	49.04	3364	3788	425
38.	6.12.09 11:10	49.09	3358	3765	407
39.	6.12.09 12:05	49.09	3424	3952	528
40.	6.12.09 12:10	49.06	3454	3841	387
41.	6.12.09 13:15	49.14	3416	4160	744
42.	6.12.09 13:20	49.18	3416	4130	714
43.	6.12.09 13:40	49.11	3386	4004	618
44.	6.12.09 13:45	48.98	3386	4025	638
45.	6.12.09 14:15	48.95	3385	4081	695
46.	6.12.09 14:20	48.98	3385	4034	649
47.	6.12.09 15:10	49.04	3374	3893	519
48.	6.12.09 15:15	48.95	3374	3629	255
49.	6.12.09 21:20	49.04	3475	3936	461
50.	6.12.09 21:45	49.17	3476	3658	182
51.	6.12.09 21:50	49.20	3476	3696	220
52.	6.12.09 22:10	49.12	3475	3798	323
53.	6.12.09 22:15	49.19	3475	3818	343
54.	6.12.09 22:40	49.14	3475	3927	452
55.	6.12.09 22:45	49.09	3475	3889	414
56.	6.12.09 22:50	49.16	3475	3931	456
57.	6.12.09 23:05	48.89	3473	4021	548
58.	6.12.09 23:10	49.09	3563	4150	587
59.	6.13.09 0:05	49.17	3564	4155	591
60.	6.13.09 0:10	49.02	3570	4150	580
61.	6.13.09 0:25	49.11	3570	4154	584
62.	6.13.09 0:30	49.16	3570	4083	513
63.	6.13.09 13:55	49.19	3373	3963	590
64.	6.13.09 14:10	49.14	3375	3810	435
65.	6.13.09 14:15	48.87	3375	3693	318
66.	6.13.09 14:20	49.06	3375	3683	308
67.	6.13.09 23:10	48.99	3358	4072	715
68.	6.15.09 0:05	49.16	3356	4272	916
69.	6.15.09 13:30	49.19	3350	4313	963
70.	6.15.09 14:20	49.09	3316	4210	894
71.	6.16.09 12:40	49.19	3401	3839	438
72.	6.16.09 14:30	49.20	3383	4365	982
73.	6.16.09 14:55	48.90	3333	4007	675
74.	6.16.09 19:50	49.18	3368	3546	178



75.	6.16.09 21:10	49.00	3359	3718	359
76.	6.16.09 21:20	49.19	3359	3897	539
77.	6.16.09 22:05	48.93	3374	3977	603
78.	6.16.09 22:10	48.90	3375	4031	656
79.	6.16.09 22:15	49.13	3375	4003	628
80.	6.16.09 22:40	49.12	3379	3859	480
81.	6.16.09 22:45	49.17	3379	3893	514
82.	6.16.09 23:00	49.15	3394	3867	472
83.	6.16.09 23:05	49.06	3394	3810	416
84.	6.16.09 23:10	48.95	3486	3819	333
85.	6.16.09 23:15	49.00	3486	3926	440
86.	6.16.09 23:20	48.95	3486	3957	471
87.	6.16.09 23:25	49.11	3487	4051	564
88.	6.16.09 23:35	49.04	3487	4144	657
89.	6.16.09 23:40	49.12	3487	4209	722
90.	6.16.09 23:45	49.16	3487	4202	715
91.	6.16.09 23:50	49.00	3487	4199	712
92.	6.16.09 23:55	49.17	3488	4220	732
93.	6.17.09 0:05	48.89	3488	4241	753
94.	6.17.09 0:10	48.99	3555	4074	519
95.	6.17.09 0:15	49.05	3555	4103	549
96.	6.17.09 0:20	48.96	3555	4182	627
97.	6.17.09 0:25	49.04	3555	4151	597
98.	6.17.09 0:30	49.02	3555	4142	587
99.	6.17.09 0:35	49.04	3555	4143	588
100.	6.17.09 5:15	49.12	3267	3932	665
101.	6.17.09 5:20	49.15	3267	4004	736
102.	6.17.09 5:25	48.99	3267	4022	755
103.	6.17.09 5:40	49.18	3267	4113	845
104.	6.17.09 5:45	49.14	3267	4162	895
105.	6.17.09 7:40	49.19	3162	3514	352
106.	6.17.09 8:25	49.10	3163	3373	210
107.	6.17.09 8:30	49.02	3163	3481	318
108.	6.17.09 8:35	49.16	3163	3478	315
109.	6.17.09 8:45	49.18	3159	3734	575
110.	6.17.09 9:10	48.93	3226	3980	754
111.	6.17.09 9:15	48.91	3226	4009	784
112.	6.17.09 9:20	49.17	3226	4173	947
113.	6.17.09 9:35	49.05	3225	4051	827
114.	6.17.09 9:40	49.04	3232	3759	527
115.	6.17.09 9:45	49.12	3232	4080	848

116.	6.17.09 9:55	49.19	3214	4156	942
117.	6.17.09 10:00	49.13	3214	4055	841
118.	6.17.09 10:15	49.16	3211	3390	179
119.	6.17.09 10:20	49.17	3211	3363	152
120.	6.17.09 10:40	49.18	3286	3789	504
121.	6.17.09 10:45	49.08	3286	3744	459
122.	6.17.09 10:50	49.17	3286	3738	453
123.	6.17.09 11:10	49.11	3332	3850	517
124.	6.17.09 11:15	49.14	3332	3750	418
125.	6.17.09 11:20	49.14	3332	3790	458
126.	6.17.09 11:25	48.94	3331	3763	432
127.	6.17.09 11:30	48.93	3331	3761	429
128.	6.17.09 11:35	49.16	3331	3789	458
129.	6.17.09 11:50	49.20	3375	4019	645
130.	6.17.09 11:55	49.18	3374	4049	675
131.	6.17.09 12:05	49.15	3374	3951	577
132.	6.17.09 12:10	48.90	3405	3965	560
133.	6.17.09 12:15	48.97	3405	3915	510
134.	6.17.09 12:20	49.05	3405	3979	574
135.	6.17.09 12:25	49.11	3381	3827	446
136.	6.17.09 12:30	48.95	3381	3731	350
137.	6.17.09 12:35	49.11	3381	3738	357
138.	6.17.09 12:40	48.98	3381	3804	423
139.	6.17.09 12:45	48.88	3381	3792	411
140.	6.17.09 12:50	49.17	3381	3800	419
141.	6.17.09 12:55	48.85	3386	3818	432
142.	6.17.09 13:00	49.04	3386	4144	758
143.	6.17.09 13:05	48.90	3386	4163	777
144.	6.17.09 13:10	48.89	3362	4159	797
145.	6.17.09 13:15	49.04	3362	4167	805
146.	6.17.09 13:20	49.02	3362	4257	895
147.	6.17.09 13:25	48.92	3371	4255	884
148.	6.17.09 13:30	49.07	3371	4165	794
149.	6.17.09 13:35	48.92	3371	4093	722
150.	6.17.09 13:40	48.92	3370	4073	703
151.	6.17.09 13:45	48.92	3370	4147	777
152.	6.17.09 13:50	48.85	3370	4129	759
153.	6.17.09 13:55	49.11	3370	4092	722
154.	6.17.09 14:00	49.19	3370	4100	730
155.	6.17.09 14:05	49.04	3370	4043	673
156.	6.17.09 14:10	48.89	3369	4169	799

157.	6.17.09 14:15	49.08	3369	4265	896
158.	6.17.09 14:20	48.97	3369	4188	819
159.	6.17.09 14:25	48.84	3369	4252	882
160.	6.17.09 14:30	49.09	3369	4279	910
161.	6.17.09 14:35	49.12	3369	4278	909
162.	6.17.09 14:40	48.90	3369	4087	717
163.	6.17.09 14:45	49.02	3369	4136	767
164.	6.17.09 14:55	48.94	3369	4206	837
165.	6.17.09 15:00	49.10	3369	4265	895
166.	6.17.09 15:20	49.14	3369	3959	590
167.	6.17.09 15:25	49.04	3318	3918	600
168.	6.17.09 15:30	49.00	3318	3951	633
169.	6.17.09 15:35	49.20	3318	3963	645
170.	6.17.09 15:45	49.16	3283	3897	614
171.	6.17.09 15:50	48.95	3283	3780	496
172.	6.17.09 15:55	49.16	3249	3803	555
173.	6.17.09 16:15	49.17	3199	3334	135
174.	6.17.09 16:40	49.18	3139	3301	162
175.	6.17.09 16:45	49.04	3139	3323	184
176.	6.17.09 20:10	48.97	3541	3683	142
177.	6.17.09 20:20	49.09	3541	3726	185
178.	6.17.09 20:25	48.89	3557	3664	107
179.	6.17.09 20:35	48.90	3557	3658	100
180.	6.17.09 20:40	48.92	3559	3701	143
181.	6.17.09 21:05	49.16	3559	3731	173
182.	6.17.09 21:10	49.14	3544	3778	234
183.	6.17.09 21:15	49.17	3544	3800	256
184.	6.17.09 21:20	49.00	3544	3771	227
185.	6.17.09 21:25	49.04	3479	3728	249
186.	6.17.09 21:30	48.99	3479	3734	256
187.	6.17.09 21:35	49.04	3479	3757	279
188.	6.17.09 21:50	49.09	3465	3744	279
189.	6.17.09 21:55	48.97	3448	3855	408
190.	6.17.09 22:10	48.97	3451	3688	237
191.	6.17.09 22:15	48.94	3451	3575	124
192.	6.17.09 22:20	48.89	3451	3656	205
193.	6.17.09 22:25	49.04	3442	3598	156
194.	6.17.09 22:30	49.07	3442	3621	179
195.	6.17.09 22:35	48.86	3442	3633	191
196.	6.17.09 22:40	49.00	3421	3597	176
197.	6.17.09 23:05	49.02	3366	3579	213

198.	6.17.09 23:10	48.87	3451	3853	402
199.	6.17.09 23:15	48.94	3451	3910	459
200.	6.17.09 23:20	48.99	3451	3965	514
201.	6.17.09 23:25	48.90	3451	3896	445
202.	6.17.09 23:30	48.90	3451	3883	432
203.	6.17.09 23:35	49.08	3451	3881	430
204.	6.17.09 23:40	49.14	3451	3850	399
205.	6.17.09 23:45	49.12	3451	3884	433
206.	6.17.09 23:50	49.04	3451	3841	390
207.	6.18.09 0:10	48.90	3420	3896	476
208.	6.18.09 0:15	48.86	3420	3967	547
209.	6.18.09 0:20	49.12	3420	3945	525
210.	6.18.09 0:35	49.19	3420	4038	618
211.	6.18.09 0:40	49.19	3420	4093	673
212.	6.18.09 1:15	49.19	3453	3950	498
213.	6.18.09 1:20	49.17	3453	3937	485
214.	6.18.09 1:35	49.07	3452	4098	646
215.	6.18.09 1:40	48.98	3390	4033	643
216.	6.18.09 1:45	49.10	3390	4002	612
217.	6.18.09 1:50	49.17	3390	3976	587
218.	6.18.09 1:55	48.97	3386	3891	505
219.	6.18.09 2:00	49.04	3386	3870	484
220.	6.18.09 2:05	49.13	3386	3908	522
221.	6.18.09 2:35	49.19	3388	3974	587
222.	6.18.09 2:50	49.06	3339	3953	614
223.	6.18.09 2:55	49.12	3355	3932	577
224.	6.18.09 3:15	49.02	3296	3630	334
225.	6.18.09 3:20	49.09	3296	3570	274
226.	6.18.09 3:25	48.98	3260	3587	327
227.	6.18.09 3:30	49.19	3260	3541	281
228.	6.18.09 3:35	49.17	3260	3572	312
229.	6.18.09 3:40	49.17	3227	3489	263
230.	6.18.09 3:45	49.16	3227	3520	294
231.	6.18.09 4:25	49.17	3244	3810	567
232.	6.18.09 4:30	48.87	3244	3896	652
233.	6.18.09 4:35	48.95	3244	3989	745
234.	6.18.09 4:40	48.98	3244	4108	864
235.	6.18.09 4:45	49.00	3244	4093	849
236.	6.18.09 4:50	48.95	3244	4080	836
237.	6.18.09 4:55	48.97	3244	4069	826
238.	6.18.09 5:00	49.15	3244	4156	912

239.	6.18.09 5:05	49.15	3244	4110	866
240.	6.18.09 5:10	49.19	3209	4050	841
241.	6.18.09 5:15	48.89	3209	4082	873
242.	6.18.09 5:20	48.97	3209	4001	791
243.	6.18.09 5:25	48.88	3192	3880	689
244.	6.18.09 5:30	48.95	3192	3905	713
245.	6.18.09 5:35	49.06	3192	3801	610
246.	6.18.09 5:40	48.89	3141	3762	621
247.	6.18.09 5:45	49.12	3141	3842	700
248.	6.18.09 5:50	49.17	3141	3846	704
249.	6.18.09 6:20	49.10	3066	3772	707
250.	6.18.09 6:25	49.19	3034	3804	770
251.	6.18.09 6:40	49.14	3027	3805	778
252.	6.18.09 6:55	49.20	3010	3741	731
253.	6.18.09 7:00	49.11	3010	3778	768
254.	6.18.09 7:45	49.20	3006	3366	359
255.	6.18.09 7:50	49.09	3006	3355	349
256.	6.18.09 8:10	49.11	3002	3288	286
257.	6.18.09 8:15	48.94	3002	3350	348
258.	6.18.09 8:20	48.92	3002	3386	384
259.	6.18.09 8:25	48.97	3026	3365	339
260.	6.18.09 8:30	48.89	3026	3357	331
261.	6.18.09 8:35	48.83	3026	3376	351
262.	6.18.09 8:40	48.95	3021	3310	289
263.	6.18.09 8:45	48.90	3021	3246	225
264.	6.18.09 8:50	48.87	3021	3246	225
265.	6.18.09 8:55	48.87	3014	3283	269
266.	6.18.09 9:00	49.11	3014	3277	263
267.	6.18.09 9:05	49.16	3014	3326	312
268.	6.18.09 9:45	49.18	3051	3167	116
269.	6.18.09 9:50	49.09	3051	3205	154
270.	6.18.09 10:25	49.02	3161	3452	292
271.	6.18.09 10:30	49.13	3161	3465	304
272.	6.18.09 10:40	49.11	3175	3671	497
273.	6.18.09 11:05	48.88	3222	3652	429
274.	6.18.09 11:10	48.87	3215	3621	406
275.	6.18.09 11:15	49.09	3215	3650	435
276.	6.18.09 12:05	49.06	3310	3777	466
277.	6.18.09 12:10	48.90	3342	3909	567
278.	6.18.09 12:15	48.94	3342	4027	685
279.	6.18.09 12:20	48.97	3342	4012	670

280.	6.18.09 12:25	49.17	3342	4007	665
281.	6.18.09 12:45	49.14	3326	3898	572
282.	6.18.09 12:50	49.04	3326	3880	554
283.	6.18.09 12:55	49.00	3325	3868	542
284.	6.18.09 13:00	49.06	3325	3852	527
285.	6.18.09 13:15	49.07	3275	3979	704
286.	6.18.09 13:20	48.92	3275	4038	763
287.	6.18.09 13:25	48.96	3258	4113	855
288.	6.18.09 13:30	48.96	3258	3964	706
289.	6.18.09 13:35	49.04	3258	4016	758
290.	6.18.09 13:40	49.16	3249	3908	659
291.	6.18.09 13:50	49.08	3249	3742	493
292.	6.18.09 14:15	48.90	3197	3920	722
293.	6.18.09 14:20	49.08	3197	3954	756
294.	6.18.09 14:25	49.11	3168	3858	690
295.	6.18.09 14:35	49.08	3168	3971	803
296.	6.18.09 14:40	48.94	3170	4035	865
297.	6.18.09 14:45	48.93	3170	4016	846
298.	6.18.09 14:50	48.95	3170	4093	923
299.	6.18.09 14:55	49.00	3170	3930	760
300.	6.18.09 15:00	49.09	3170	3748	578
301.	6.18.09 15:05	49.16	3170	3789	619
302.	6.18.09 15:10	48.99	3101	3718	617
303.	6.18.09 15:15	48.92	3101	3762	661
304.	6.18.09 15:20	49.09	3101	3833	732
305.	6.18.09 15:25	48.99	3085	3751	666
306.	6.18.09 15:30	49.13	3085	3656	571
307.	6.18.09 15:35	49.09	3085	3740	655
308.	6.18.09 15:40	49.12	3050	3745	695
309.	6.18.09 15:50	49.18	3050	3863	813
310.	6.18.09 15:55	48.87	3053	3916	863
311.	6.18.09 16:00	49.08	3053	3879	826
312.	6.18.09 16:10	48.89	3036	3668	632
313.	6.18.09 16:15	48.98	3036	3660	625
314.	6.18.09 16:20	48.95	3036	3655	619
315.	6.18.09 16:25	48.89	3020	3673	653
316.	6.18.09 16:30	48.90	3020	3708	688
317.	6.18.09 16:35	48.90	3020	3623	603
318.	6.18.09 16:45	48.92	2976	3431	455
319.	6.18.09 16:50	48.90	2976	3324	348
320.	6.18.09 17:10	49.18	2952	3328	376

321.	6.18.09 17:15	49.10	2952	3133	181
322.	6.18.09 17:20	49.00	2952	3181	230
323.	6.18.09 17:25	49.17	2958	3232	274
324.	6.18.09 17:40	49.07	2959	3203	244
325.	6.18.09 17:55	49.19	2939	3353	414
326.	6.18.09 18:45	49.19	3022	3291	269
327.	6.18.09 18:50	49.19	3022	3393	371
328.	6.18.09 19:10	49.09	3029	3303	274
329.	6.18.09 19:25	48.98	3130	3356	226
330.	6.18.09 20:10	48.98	3493	3715	222
331.	6.18.09 20:15	49.06	3493	3745	252
332.	6.18.09 20:25	49.14	3494	3917	423
333.	6.18.09 20:30	49.05	3494	3936	442
334.	6.18.09 20:35	48.94	3494	3941	447
335.	6.18.09 20:40	48.89	3495	3884	389
336.	6.18.09 20:45	48.95	3495	3901	406
337.	6.18.09 20:50	49.16	3495	3938	443
338.	6.18.09 20:55	49.02	3495	3923	428
339.	6.18.09 21:00	48.95	3495	3927	432
340.	6.18.09 21:05	49.00	3495	3982	487
341.	6.18.09 21:10	49.19	3395	4026	631
342.	6.18.09 21:20	48.87	3395	4095	700
343.	6.18.09 21:25	49.03	3327	3972	646
344.	6.18.09 21:30	49.06	3327	3935	608
345.	6.18.09 21:35	49.02	3327	3951	624
346.	6.18.09 21:40	48.93	3328	3975	647
347.	6.18.09 21:45	48.89	3328	3939	611
348.	6.18.09 22:00	49.06	3328	3673	346
349.	6.18.09 22:05	48.87	3328	3652	324
350.	6.18.09 22:10	48.89	3297	3672	375
351.	6.18.09 22:15	48.92	3297	3752	455
352.	6.18.09 22:20	48.85	3297	3841	544
353.	6.18.09 22:25	49.04	3284	3861	577
354.	6.18.09 22:30	49.11	3284	3847	564
355.	6.18.09 22:35	49.17	3284	3869	585
356.	6.18.09 22:45	48.94	3308	3865	557
357.	6.18.09 22:50	49.13	3308	3806	498
358.	6.18.09 23:05	48.92	3292	3741	449
359.	6.18.09 23:10	49.07	3349	3755	406
360.	6.18.09 23:15	49.14	3349	3771	422
361.	6.18.09 23:20	48.92	3349	3759	410

362.	6.18.09 23:25	48.97	3349	3822	473
363.	6.18.09 23:30	49.16	3349	3876	527
364.	6.18.09 23:35	48.90	3349	3715	366
365.	6.18.09 23:40	48.97	3349	3590	241
366.	6.18.09 23:50	49.19	3349	3490	141
367.	6.18.09 23:55	49.14	3349	3537	187
368.	6.19.09 0:10	48.90	3431	3764	333
369.	6.19.09 0:15	49.04	3431	3721	290
370.	6.19.09 0:20	49.02	3431	3820	388
371.	6.19.09 0:25	49.06	3431	3951	520
372.	6.19.09 0:30	49.13	3431	3836	404
373.	6.19.09 0:35	49.02	3431	3796	365
374.	6.19.09 0:40	49.14	3423	3742	319
375.	6.19.09 0:55	49.12	3424	3872	448
376.	6.19.09 1:00	49.15	3424	3853	429
377.	6.19.09 1:05	48.99	3424	3961	537
378.	6.19.09 1:20	49.11	3424	3606	182
379.	6.19.09 1:25	48.95	3397	3505	108
380.	6.19.09 1:45	49.16	3374	3592	218
381.	6.19.09 1:50	49.19	3374	3634	260
382.	6.19.09 1:55	49.11	3375	3649	274
383.	6.19.09 2:00	49.19	3375	3614	240
384.	6.19.09 2:05	49.03	3375	3613	239
385.	6.19.09 2:10	48.89	3377	3659	282
386.	6.19.09 2:15	48.99	3377	3690	313
387.	6.19.09 2:20	49.15	3377	3740	363
388.	6.19.09 2:55	49.10	3303	3805	503
389.	6.19.09 3:15	49.09	3303	3789	486
390.	6.19.09 3:20	49.09	3303	3684	381
391.	6.19.09 3:25	49.04	3268	3710	442
392.	6.19.09 3:30	49.10	3268	3688	420
393.	6.19.09 3:45	49.18	3268	3812	545
394.	6.19.09 3:50	49.20	3268	3772	505
395.	6.19.09 4:10	49.12	3254	3490	237
396.	6.19.09 4:15	48.92	3254	3546	293
397.	6.19.09 4:20	48.88	3254	3506	252
398.	6.19.09 4:25	48.85	3254	3485	232
399.	6.19.09 4:30	49.06	3254	3568	314
400.	6.19.09 4:35	49.14	3254	3603	350
401.	6.19.09 4:40	49.16	3236	3651	415
402.	6.19.09 4:45	48.89	3236	3647	411



403.	6.19.09 4:50	49.04	3236	3794	558
404.	6.19.09 4:55	49.13	3196	3808	612
405.	6.19.09 5:00	49.19	3196	3909	714
406.	6.19.09 5:05	49.03	3196	4018	823
407.	6.19.09 5:10	48.89	3179	3909	730
408.	6.19.09 5:15	48.97	3179	3991	813
409.	6.19.09 5:20	48.96	3179	4137	958
410.	6.19.09 5:25	48.95	3179	4108	929
411.	6.19.09 5:30	48.89	3179	4158	979
412.	6.19.09 5:35	48.85	3179	4038	860
413.	6.19.09 5:40	49.03	3128	3958	829
414.	6.19.09 5:45	49.12	3128	3858	729
415.	6.19.09 5:50	48.90	3128	3917	789
416.	6.19.09 5:55	49.03	3128	3872	743
417.	6.19.09 6:00	49.05	3128	3969	840
418.	6.19.09 6:15	49.17	3020	4028	1008
419.	6.19.09 6:20	48.89	3020	4002	981
420.	6.19.09 6:25	48.99	2997	3992	996
421.	6.19.09 6:50	49.19	2997	3819	822
422.	6.19.09 7:15	49.17	2995	3722	727
423.	6.19.09 7:30	48.97	2993	3781	788
424.	6.19.09 7:35	48.90	2993	3786	793
425.	6.19.09 7:40	48.95	2993	3731	737
426.	6.19.09 7:45	49.09	2993	3713	719
427.	6.19.09 7:50	49.04	2993	3759	766
428.	6.19.09 7:55	48.94	2993	3753	760
429.	6.19.09 8:00	49.19	2993	3783	790
430.	6.19.09 8:10	49.04	2996	3541	545
431.	6.19.09 8:15	48.88	2996	3517	521
432.	6.19.09 8:20	48.93	2996	3454	458
433.	6.19.09 8:25	49.16	2996	3521	525
434.	6.19.09 8:40	48.95	2992	3517	524
435.	6.19.09 8:45	48.97	2992	3506	514
436.	6.19.09 8:50	49.10	2992	3542	549
437.	6.19.09 9:15	49.10	3043	3798	755
438.	6.19.09 9:30	49.16	3051	3909	858
439.	6.19.09 9:40	49.09	3109	3935	826
440.	6.19.09 9:50	48.97	3109	4022	913
441.	6.19.09 9:55	48.93	3147	3968	821
442.	6.19.09 10:00	49.11	3147	4014	867
443.	6.19.09 10:05	49.11	3147	4014	867

444.	6.19.09 10:10	49.11	3147	4014	867
445.	6.19.09 10:15	48.87	3136	3882	746
446.	6.19.09 10:20	48.95	3153	3699	547
447.	6.19.09 10:45	49.07	3169	3625	456
448.	6.19.09 11:10	48.88	3261	3586	325
449.	6.19.09 11:15	48.87	3261	3652	391
450.	6.19.09 11:20	48.83	3260	3526	267
451.	6.19.09 11:25	48.86	3260	3553	293
452.	6.19.09 11:30	49.08	3260	3597	337
453.	6.19.09 11:45	49.19	3294	3649	356
454.	6.19.09 11:50	49.11	3293	3520	227
455.	6.19.09 12:25	49.09	3323	3707	384
456.	6.19.09 12:30	48.99	3323	3722	399
457.	6.19.09 12:35	49.00	3323	3742	419
458.	6.19.09 12:40	49.04	3323	3727	404
459.	6.19.09 12:45	49.09	3323	3735	413
460.	6.19.09 12:50	49.09	3305	3625	319
461.	6.19.09 13:10	48.94	3304	3601	296
462.	6.19.09 13:15	48.96	3304	3760	456
463.	6.19.09 13:20	49.10	3305	3729	423
464.	6.19.09 14:15	49.14	3219	3565	346
465.	6.19.09 14:35	49.18	3177	3738	562
466.	6.19.09 14:50	49.11	3159	3759	600
467.	6.19.09 14:55	49.05	3159	3743	583
468.	6.19.09 15:00	49.16	3159	3942	782
469.	6.19.09 15:10	48.94	3149	4071	922
470.	6.19.09 15:15	49.03	3149	4119	970
471.	6.19.09 15:20	49.12	3139	3928	790

## Details of the “B” and “C” messages issued

Date	Time		Over-drawal (MW)	Frequency	Message No	Over-drawal (MW)	Frequency
11-Jun-2009	0001				Message-C/135	538	48.95
11-Jun-2009	1415	Message-B/617	713	49.02			
11-Jun-2009	1430				Message-C/138	508	49.01
11-Jun-2009	1541	Message-B/619	455	48.92			
11-Jun-2009	2305	Message-B/622	770	48.8			
12-Jun-2009	1423	Message-B/626	354	49.07			
12-Jun-2009	2213	Message-B/630	440	49.14			
12-Jun-2009	2246	Message-B/631	470	49.02			
12-Jun-2009	2305	Message-B/632	576	48.81			
13-Jun-2009	0010	Message-B/635	590	49.09			
13-Jun-2009	0030	Message-B/637	556	49.06			
13-Jun-2009	2314	Message-B/639	712	49.18			
16-Jun-2009	2325	Message-B/641	617	49.02			
17-Jun-2009	0023				Message-C/141	579	48.94
17-Jun-2009	0919	Message-B/645	950	49.08			
17-Jun-2009	0939	Message-B/648	836	48.95			
17-Jun-2009	1000	Message-B/651	628	49.09			
17-Jun-2009	1046				Message-C/143	443	49.02
17-Jun-2009	1551	Message-B/654	547	48.92			
17-Jun-2009	2033	Message-B/661	130	48.82			
17-Jun-2009	2320	Message-B/664	444	48.93			
18-Jun-2009	0013	Message-B/667	531	48.81			
18-Jun-2009	0020				Message-C/149	606	49.09
18-Jun-2009	0458	Message-B/668	875	48.95			
18-Jun-2009	1113	Message-B/669	455	48.91			
18-Jun-2009	1336	Message-B/672	619	49			
18-Jun-2009	1438	Message-B/673	4	48.91			
18-Jun-2009	1448				Message-C/150	790	48.89
18-Jun-2009	2014	Message-B/676	330	48.86			
18-Jun-2009	2142	Message-B/677	627	48.83			
18-Jun-2009	2217				Message-C/151	592	48.8
18-Jun-2009	2323				Message-C/153	482	48.88
19-Jun-2009	0013				Message-C/156	312	48.84
19-Jun-2009	0425	Message-B/682	306	48.79			

19-Jun-2009	0512	Message-B/683	924	48.91			
19-Jun-2009	0527	Message-B/684	979	48.84			
19-Jun-2009	0952	Message-B/685	838	48.83			
19-Jun-2009	1011				Message-C/158	721	48.8
19-Jun-2009	1125	Message-B/686	335	48.88			
19-Jun-2009	1452						
19-Jun-2009	1459	Message-B/688	719	49.08			
19-Jun-2009	1517				Message-C/159	1000	48.93
19-Jun-2009	1940	Message-B/690	478	49.13			
19-Jun-2009	2002	Message-B/691	282	48.97			
19-Jun-2009	2022				Message-C/160	360	49.08
19-Jun-2009	2218	Message-B/695	321	48.94			
19-Jun-2009	2319				Message-C/161	452	48.95