

**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 81/2009
(Suo-motu)**

In the matter of

Maintenance of Grid Discipline – Compliance of provisions of the Indian Electricity Grid Code.

And in the matter of

1. Tamil Nadu Electricity Board, Chennai
 2. Shri C. P. Singh, Chairman,
Tamil Nadu Electricity Board, Chennai
- Respondents

Following were present on behalf of the parties

1. Shri P. Soma Sundram, Advocate, TNEB
2. Shri R. Murugan, TNEB
3. Shri K. Ramakrishna, SRLDC
4. Shri Ajit Singh, SRPC

**ORDER
(Date of Hearing: 21.4.2009)**

The Indian Electricity Grid Code (the Grid Code). specified by the Commission in exercise of powers under Section 178 of the Electricity Act, 2003 (the Act), as applicable from 1.4.2009, lays down at paras 5.4.2(a) and 6.4.7 that the State utilities shall endeavor to restrict their net drawl from the grid to their respective drawl schedule whenever the system frequency is below 49.5 Hz. However, manual load shedding has to be carried out to curtail over-drawl when the grid frequency falls below 49.2 Hz. The 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 drawal 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. It was reported by the Southern Regional Load Despatch Centre that despite continuous efforts made at various levels, the first respondent recklessly over-drew electricity from the regional grid at frequency below 49.2 Hz during the period 1.4.2009 to 9.4.2009. The Southern Regional Load Despatch Centre compiled the date-wise details of over-drawls by the first respondent during the said period based on the Real Time SCADA values received, as given hereunder:

STATEMENT OF OVER-DRAWL

Ser No	Date	Over-drawl in MU	Over-drawl in MW
APRIL 2009			
1.	1-Apr-09	2.90	638
2.	2-Apr-09	2.16	587
3.	3-Apr-09	1.97	548
4.	4-Apr-09	1.67	449
5.	5-Apr-09	2.78	556
6.	6-Apr-09	4.64	735
7.	7-Apr-09	3.50	514
8.	8-Apr-09	2.29	543
9.	9-Apr-09	2.24	480

3. The time-block-wise data of over-drawl by the first respondent at frequency below 49.2 Hz during the period also based on the Real Time SCADA values as received from the Southern Regional Load Despatch Centre, revealed that the first respondent over-drew from the regional grid during 496 time-blocks of 15 minutes each, the details of which are contained in the **Annexure I** attached to this order.

4. On perusal of the details *prima facie*, it was found that the first respondent who on earlier occasions also was found guilty of over-drawl from the grid in contravention of the provisions of the Grid Code, was again contravening the provisions of the Grid Code. Therefore, the first respondent by order dated 13.4.2009 was 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 penalty under Section 142 of the Act be not imposed on it. Similarly, the second respondent, was also issued the show cause notice under section 149 of the Act to explain as to why, as the person in charge of and responsible to the first respondent for conduct of its business, he should also not be deemed guilty of the offence of contravention of and non-compliance with the provisions of the Grid Code, and punished accordingly along with the first respondent. All necessary details were appended to the show cause notice dated 13.4.2009. The details of over-drawals as per Annexure I were duly conveyed to the respondents.

5. Replies were filed by the second respondent on behalf of both the respondents at the hearing on 21.4.2009.

6. Learned counsel for the respondents submitted during the course of hearing that Hon'ble Madras High Court had in WP(C) No. 7185/2009 stayed the proceedings against the second respondent. Subsequently, the second respondent has forwarded a copy of the order dated 21.4.2009 of the Hon'ble High Court. Therefore, we direct that as at present the proceedings against the second respondent be kept in abeyance and may be reviewed in the light of further directions of the Hon'ble High Court.

7. Before proceeding further, we consider it appropriate to take note of a preliminary objection raised in the reply by the second respondent. It has been stated that the Commission does not have power to impose penalty on the second respondent as Chairman of the first respondent, a licensee under the Act, cannot be equated with a company. And punished under section 149 of the Act. In view of the stay granted by the Hon'ble High Court and our decision to keep the proceedings against him in abeyance, we are not dealing with the preliminary objection. The preliminary objection may be considered, if necessary, at a later date.

8. We heard learned counsel for the respondents and also their representative and the representatives of the Southern Regional Load Despatch Centre and Southern Regional Power Committee. We proceed to consider the matter as regards the first respondent.

9. The first respondent has not denied the fact of over-drawal but has only sought to justify the same by stating that it was forced to over-draw from the grid

“due to unavoidable conditions” and has accordingly sought condonation of over-drawl. The reply has listed the measures taken to ensure grid safety. The gist of the submissions made by the first respondent is as under:

(a) Hot weather conditions coupled with Parliamentary Elections and examination season led to increase in power demand to the extent of around 10,000 MW, excluding power-cut relief, but against this escalating demand, there was no appreciable capacity addition either from the Central sector or the State sector.

(b) Several Restriction and Control (R&C) measures introduced since 1.11.2008 proved ineffective since power consumption which was around 160 MU per day in November after imposing R&C measures, went up to 205 MU per day on 7.4.2009 with a peak demand of 9845 MW.

(c) TNERC did not approve the request made by the first respondent to take action under Section 23 of the Electricity Act, 2003.

(d) The power situation aggravated because of the forced outages of the generating units. 250 MW of Atomic Power was stated to have been curtailed.

(e) In accordance with the Act, supply had to be effected to new connections, despite enforcement of R&C measures.

(f) Power is a sensitive issue in the State and non-availability of electricity even for very short duration, such as load-shedding would attract wrath of the general public and the Government.

10. With a view to curtail over-drawl from the grid, the first respondent is stated to have taken the following steps, namely:-

- (a) Maximization of hydro generation in spite of meager storage in the hydel reservoirs.
- (b) Immediate tripping of additional 110 kV feeders.
- (c) Load curtailment and increased hydro generation in the face of transmission constraints imposed due to outage of HVDC pole or lingering low central grid frequency.
- (d) Purchase of power on round the clock basis through bilateral transactions from Northern Region to the tune of 366 MW.
- (e) Scheduling of URS power to the extent possible.
- (f) Harnessing CPP power available within the State to the extent of 135 MW directly and 150 MW through traders.
- (g) Purchase of power through bilateral transaction to the tune of Rs. 185 crore in March and Rs. 163 crore up to 14.4.2009.
- (h) Taking necessary steps when Talcher-Kolar pole tripped on 3.4.2009 and 4.4.2009.
- (i) Allowing third party sale of power within the State.
- (j) Activation and servicing of the Under Frequency Relays (UFRs).

11. We have very carefully considered the reply, but we may unhesitatingly say that the reasons for over-drawl narrated by the respondents cannot justify the misappropriation of other constituents' share in the region, and that too when the frequency was precariously low. The most prominent grounds that have been urged are the on set of summer season, Parliamentary Elections and the examination season. All these grounds are common to other States in the region who too are also faced with similar circumstances. There is general scarcity of

power in the country including other States in Southern Region, and this cannot be as justification for violation of the provisions of the Grid Code nor for the over-drawl from the grid at the cost of other constituents of the region. The first respondent cannot be treated as a class apart from others. The other prominent reason cited to support over-drawl is the lack of capacity addition in the State sector. This shows lack of planning on the part of the respondents and for this state of affairs the respondents themselves are to be blamed. The respondents cannot be permitted to eat into others shares, when the grid was in the precarious state facing imminent danger. The action is all the more contemptible when it has the potential to jeopardize the grid security and stability. We are also not able to persuade ourselves to accept the contention of the first respondent that the situation faced by the State during the period in question was extraordinary. The circumstances narrated by respondents are of recurring nature. It is expected of the first respondent to undertake necessary steps to tackle and overcome the situation of scarcity. In our view, the only long-term measure to meet the power shortage situation is the capacity addition. We further feel that there is no alternative to load-shedding to bring the situation to normalcy in case other measures for procurement of power do not yield the necessary relief. The State machinery should be geared to meet the situations of load-shedding.

12. The first respondent in the reply has pointed out certain measures to meet the situation of shortage of power. By taking those measures, the first respondent had only discharged its responsibility towards grid discipline. However, in the light of the situation that has emerged before us, all we can say is that those measures have proved to be inadequate and insufficient. In order to curb over-

drawl and restrict the drawl within the permissible limit specified in the Grid Code, much more was expected of the first respondent. But the first respondent has failed to come up to the expectations.

13. The respondents have alleged that the Southern Regional Load Despatch Centre is diverting power to other regions when the frequency is above 49.5 Hz and deliberately bring down the operating frequency below 49.5 HZ. The respondents have sought a direction to the Southern Regional Load Despatch Centre to restrain from exporting power when the frequency is below 50 Hz.

14. The representative of the Southern Regional Load Despatch Centre submitted that inter-regional export of power was resorted to when the frequency was higher. He submitted that such export was permitted under the Grid Code. He also clarified that Southern Region had mostly been importing power from other regions and it was very rarely that power was exported to other regions.

15. The respondents in their reply has not quoted any specific instances of power export by the Southern Regional Load Despatch Centre at low frequency. The allegation is in general terms. Further, we do not find any specific reason for the Southern Regional Load Despatch Centre to export power to other regions at low frequency. We feel that the allegation of deliberate export by the Southern Regional Load Despatch Centre to the detriment of the respondents is unfounded.

16. We revert to main issue of culpability of the first respondent of the offence of contravention of and non-compliance with the provisions of the Grid Code.

The respondents in the reply have admitted to over-drawl when frequency was at levels not permitted under the Grid Code. From the reply, it is seen that over-drawl was intentional and willful, in order to meet the demand of the consumers in the State by throwing the caution to the wind. To us it appears that the first respondent in its anxiety to avoid “wrath”, to use the respondents’ own expression in the reply of the Government and the general public continued with over-drawl without deliberating on its baneful effects. Accordingly we hold the first respondent guilty of contravention of and non-compliance with the relevant provisions of the Grid Code reproduced in earlier parts of this order.

17. This leaves the question of penalty that may be imposed on the first respondent. In the reply filed, it has been meekly suggested that narrowing down the operating frequency range to 49.2-50.3 Hz from 49.0 – 50.5 Hz with effect from 1.4.2009 could be an extenuating factor when seen in the light of the statement made in the reply that though narrowing down is a welcome step it should have been resorted to after the monsoon season. It was not necessary for the Commission to wait for any particular occasion while promulgating the amendments of the Grid Code, when the situation otherwise warranted. However, in the light of the fact that the amended provisions of the Grid Code have come into force only on 1.4.2009, and prior thereto specified operating range was between 50.5 Hz to 49.0 Hz, we feel that some time should have been available to the first respondent to overcome the psychological limitations and for switch-over to new regimen. Accordingly, we propose to take this factor into consideration while considering imposition of penalty.

18. We feel that the incidents of over-drawl below frequency of 49.0 Hz only may be taken into consideration for the purpose of penalty in the present proceedings. As a result, over-drawls at frequency between 49.0 Hz and 49.2 Hz are being ignored in the instant case. This shall, however, not be quoted as a precedent in any other proceedings of similar nature.

19. In the present proceedings the instances of over-drawl are as many as 496 at frequency below 49.2 Hz. However, in view of what has been stated in the preceding para, there were 150 occasions when frequency was below 49.0 Hz, the details contained in the Annexure II attached to this order. Section 142 of the Act empowers the Commission to impose a penalty not exceeding Rs. one lakh for **“each contravention”**. We have already taken note of the past conduct of the first respondent who was found guilty of violation of the provisions of the Grid Code. Considering the past conduct, we feel that the circumstances warrant that penalty is imposed on the first respondent for each contravention at frequency below 49.0 HZ . Accordingly, we are satisfied that penalty of Rs. one lakh for each of the 150 contraventions shall meet the ends of justice We direct accordingly. Thus, against 150 violations, the first respondent shall pay a total penalty of Rs. 1.5 crore, Rs. one lakh against each contravention. The penalty shall be deposited latest by 31.5.2009.

20. It has been urged on behalf of the respondents that the Under Frequency Relays are activated in the State. During the hearing it transpired that the Under Frequency Relays in the State were set at the incredibly low frequency of 48.5 Hz, which the representative of SRLDC stated was never reached. We are

dismayed to note that setting of Under Frequency Relays at such low levels does not serve any purpose. This amounts to mockery of the scheme. We are of the opinion that there is a need to assign meaningful operational role for the Under Frequency Relays.

21. As already decided the proceedings against the second respondent are kept pending.

Sd/-
[V. S. VERMA]
MEMBER

Sd/-
[S. JAYARAMAN]
MEMBER

Sd/-
[R. KRISHNAMOORTHY]
MEMBER

Sd/-
[DR. PRAMOD DEO]
CHAIRPERSON

New Delhi, dated 8th May 2009

Annexure I

STATEMENT OF OVER-DRAWL BY TNEB AT FREQUENCY BELOW 49.2 HZ

Sl.No	Date	Time-Block	Frequency	Over-drawl (MW)
1	1-Apr-09	1	48.74	275
2	1-Apr-09	2	49.00	104
3	1-Apr-09	3	49.15	246
4	1-Apr-09	5	49.17	425
5	1-Apr-09	6	49.08	419
6	1-Apr-09	7	49.05	392
7	1-Apr-09	8	49.16	206
8	1-Apr-09	15	49.15	26
9	1-Apr-09	17	49.06	16
10	1-Apr-09	18	49.06	83
11	1-Apr-09	19	48.98	125
12	1-Apr-09	20	49.11	66
13	1-Apr-09	21	49.03	370
14	1-Apr-09	22	48.92	207
15	1-Apr-09	23	49.07	157
16	1-Apr-09	26	49.11	47
17	1-Apr-09	27	49.02	117
18	1-Apr-09	28	49.03	161
19	1-Apr-09	26	49.11	47
20	1-Apr-09	30	49.08	227
21	1-Apr-09	31	49.17	242
22	1-Apr-09	37	49.14	169
23	1-Apr-09	38	49.07	29
24	1-Apr-09	39	49.04	67
25	1-Apr-09	41	49.02	353
26	1-Apr-09	42	49.01	278
27	1-Apr-09	45	49.17	553
28	1-Apr-09	46	49.01	463
29	1-Apr-09	47	48.95	285
30	1-Apr-09	50	49.07	235
31	1-Apr-09	51	49.01	307
32	1-Apr-09	52	48.73	329
33	1-Apr-09	53	48.82	350
34	1-Apr-09	54	48.70	333
35	1-Apr-09	55	48.79	313
36	1-Apr-09	58	49.19	254
37	1-Apr-09	63	49.19	120
38	1-Apr-09	76	49.19	278
39	1-Apr-09	79	49.08	132
40	1-Apr-09	81	49.19	216

41	1-Apr-09	82	49.16	195
42	1-Apr-09	83	49.14	231
43	1-Apr-09	84	49.12	147
44	1-Apr-09	86	49.18	197
45	1-Apr-09	89	49.06	302
46	1-Apr-09	90	48.68	359
47	1-Apr-09	91	48.75	349
48	1-Apr-09	92	48.93	262
49	1-Apr-09	93	49.14	82
50	1-Apr-09	95	49.18	117
51	1-Apr-09	96	49.18	129
52	2-Apr-09	1	48.98	18
53	2-Apr-09	2	49.12	64
54	2-Apr-09	4	49.19	96
55	2-Apr-09	5	49.17	105
56	2-Apr-09	6	49.10	86
57	2-Apr-09	7	49.13	109
58	2-Apr-09	13	49.11	6
59	2-Apr-09	14	49.06	23
60	2-Apr-09	15	49.20	47
61	2-Apr-09	16	49.19	80
62	2-Apr-09	17	49.11	94
63	2-Apr-09	18	48.97	62
64	2-Apr-09	19	49.00	56
65	2-Apr-09	20	49.04	33
66	2-Apr-09	21	49.06	143
67	2-Apr-09	22	48.96	82
68	2-Apr-09	23	49.14	182
69	2-Apr-09	27	49.13	107
70	2-Apr-09	28	49.19	216
71	2-Apr-09	30	49.17	248
72	2-Apr-09	31	49.18	203
73	2-Apr-09	34	49.18	192
74	2-Apr-09	36	49.18	305
75	2-Apr-09	37	49.16	324
76	2-Apr-09	38	49.19	227
77	2-Apr-09	39	49.06	230
78	2-Apr-09	43	49.06	244
79	2-Apr-09	44	49.04	191
80	2-Apr-09	46	49.13	119
81	2-Apr-09	47	48.99	26
82	2-Apr-09	51	49.19	54
83	2-Apr-09	53	49.16	309
84	2-Apr-09	54	49.12	146
85	2-Apr-09	56	49.18	229
86	2-Apr-09	58	49.15	161

87	2-Apr-09	60	49.15	191
88	2-Apr-09	66	49.19	134
89	2-Apr-09	67	49.19	185
90	2-Apr-09	75	49.18	222
91	2-Apr-09	76	48.86	13
92	2-Apr-09	77	49.15	182
93	2-Apr-09	79	49.13	151
94	2-Apr-09	81	49.04	210
95	2-Apr-09	82	49.13	104
96	2-Apr-09	83	49.14	89
97	2-Apr-09	84	49.18	179
98	2-Apr-09	85	49.09	145
99	2-Apr-09	86	49.16	57
100	2-Apr-09	87	49.19	83
101	2-Apr-09	81	49.04	210
102	2-Apr-09	82	49.13	104
103	2-Apr-09	83	49.14	89
104	2-Apr-09	84	49.18	179
105	2-Apr-09	85	49.09	145
106	2-Apr-09	86	49.16	57
107	2-Apr-09	87	49.19	83
108	2-Apr-09	81	49.04	210
109	2-Apr-09	82	49.13	104
110	2-Apr-09	83	49.14	89
111	2-Apr-09	84	49.18	179
112	2-Apr-09	85	49.09	145
113	2-Apr-09	86	49.16	57
114	2-Apr-09	87	49.19	83
115	2-Apr-09	89	48.75	352
116	2-Apr-09	90	48.64	453
117	2-Apr-09	91	48.59	474
118	2-Apr-09	92	48.86	329
119	2-Apr-09	93	48.99	263
120	2-Apr-09	94	49.10	310
121	2-Apr-09	95	49.15	259
122	3-Apr-09	2	49.15	67
123	3-Apr-09	6	49.16	68
124	3-Apr-09	17	49.14	33
125	3-Apr-09	18	49.13	74
126	3-Apr-09	19	49.16	109
127	3-Apr-09	20	49.14	139
128	3-Apr-09	21	49.13	6
129	3-Apr-09	22	49.01	9
130	3-Apr-09	23	49.03	52
131	3-Apr-09	28	49.13	167
132	3-Apr-09	30	49.16	224

133	3-Apr-09	31	49.14	246
134	3-Apr-09	32	49.19	195
135	3-Apr-09	34	49.02	102
136	3-Apr-09	37	49.19	326
137	3-Apr-09	38	49.10	182
138	3-Apr-09	42	49.05	221
139	3-Apr-09	43	49.09	237
140	3-Apr-09	47	49.17	25
141	3-Apr-09	52	48.93	267
142	3-Apr-09	53	49.06	401
143	3-Apr-09	54	48.91	330
144	3-Apr-09	55	49.02	260
145	3-Apr-09	56	48.94	253
146	3-Apr-09	58	49.08	193
147	3-Apr-09	59	49.13	209
148	3-Apr-09	60	49.10	225
149	3-Apr-09	61	49.13	143
150	3-Apr-09	62	49.16	139
151	3-Apr-09	63	49.14	96
152	3-Apr-09	64	49.18	108
153	3-Apr-09	67	49.11	139
154	3-Apr-09	68	49.06	73
155	3-Apr-09	76	49.15	230
156	3-Apr-09	77	49.10	172
157	3-Apr-09	78	48.89	147
158	3-Apr-09	79	49.15	107
159	3-Apr-09	80	49.15	114
160	3-Apr-09	81	49.19	163
161	3-Apr-09	85	48.97	37
162	3-Apr-09	88	49.10	11
163	3-Apr-09	89	48.88	168
164	3-Apr-09	90	48.69	226
165	3-Apr-09	91	48.65	254
166	3-Apr-09	92	48.68	271
167	3-Apr-09	93	48.72	180
168	3-Apr-09	94	48.90	224
169	3-Apr-09	95	49.10	192
170	4-Apr-09	1	49.09	203
171	4-Apr-09	2	49.13	164
172	4-Apr-09	3	49.19	224
173	4-Apr-09	4	49.19	190
174	4-Apr-09	6	49.16	9
175	4-Apr-09	18	49.18	3
176	4-Apr-09	19	49.18	72
177	4-Apr-09	21	49.11	66
178	4-Apr-09	22	49.10	80

179	4-Apr-09	23	49.08	150
180	4-Apr-09	28	49.16	11
181	4-Apr-09	29	49.18	121
182	4-Apr-09	30	49.19	85
183	4-Apr-09	34	49.11	81
184	4-Apr-09	35	49.04	38
185	4-Apr-09	39	49.08	24
186	4-Apr-09	52	49.15	236
187	4-Apr-09	54	49.07	181
188	4-Apr-09	55	49.06	112
189	4-Apr-09	56	49.13	148
190	4-Apr-09	58	48.98	14
191	4-Apr-09	59	49.18	122
192	4-Apr-09	60	49.08	92
193	4-Apr-09	61	49.15	73
194	4-Apr-09	62	49.09	90
195	4-Apr-09	63	49.09	23
196	4-Apr-09	67	49.15	39
197	4-Apr-09	68	49.17	55
198	4-Apr-09	76	48.95	194
199	4-Apr-09	77	48.98	198
200	4-Apr-09	78	48.78	182
201	4-Apr-09	79	49.13	195
202	4-Apr-09	80	49.09	251
203	4-Apr-09	81	49.09	316
204	4-Apr-09	82	49.13	373
205	4-Apr-09	83	49.13	412
206	4-Apr-09	84	49.12	396
207	4-Apr-09	85	48.90	143
208	4-Apr-09	86	49.15	71
209	4-Apr-09	87	49.18	125
210	4-Apr-09	89	48.84	124
211	4-Apr-09	90	48.82	151
212	4-Apr-09	91	48.81	270
213	4-Apr-09	92	48.98	279
214	4-Apr-09	93	48.87	153
215	4-Apr-09	94	49.01	158
216	4-Apr-09	95	49.05	132
217	4-Apr-09	96	49.10	79
218	5-Apr-09	1	48.83	245
219	5-Apr-09	2	48.85	344
220	5-Apr-09	3	48.88	301
221	5-Apr-09	4	49.06	265
222	5-Apr-09	6	49.15	368
223	5-Apr-09	7	49.13	421
224	5-Apr-09	10	49.09	112

225	5-Apr-09	11	49.05	143
226	5-Apr-09	12	49.13	154
227	5-Apr-09	13	49.10	154
228	5-Apr-09	14	48.87	99
229	5-Apr-09	15	48.95	168
230	5-Apr-09	16	48.94	162
231	5-Apr-09	17	48.95	73
232	5-Apr-09	18	49.03	40
233	5-Apr-09	19	49.04	134
234	5-Apr-09	20	48.99	183
235	5-Apr-09	21	49.03	219
236	5-Apr-09	22	49.03	193
237	5-Apr-09	23	49.18	43
238	5-Apr-09	32	49.02	71
239	5-Apr-09	34	49.04	10
240	5-Apr-09	37	49.18	229
241	5-Apr-09	38	48.98	58
242	5-Apr-09	39	49.00	69
243	5-Apr-09	41	49.02	158
244	5-Apr-09	42	48.74	98
245	5-Apr-09	43	48.62	14
246	5-Apr-09	44	49.04	76
247	5-Apr-09	46	49.11	275
248	5-Apr-09	47	48.94	195
249	5-Apr-09	50	48.71	28
250	5-Apr-09	51	48.94	191
251	5-Apr-09	52	48.98	352
252	5-Apr-09	53	49.02	400
253	5-Apr-09	54	48.94	344
254	5-Apr-09	55	48.80	228
255	5-Apr-09	56	49.02	167
256	5-Apr-09	57	49.15	212
257	5-Apr-09	58	49.04	183
258	5-Apr-09	59	49.07	98
259	5-Apr-09	60	49.12	82
260	5-Apr-09	61	48.98	67
261	5-Apr-09	62	49.14	191
262	5-Apr-09	63	49.17	163
263	5-Apr-09	64	49.06	228
264	5-Apr-09	66	49.15	62
265	5-Apr-09	77	49.08	348
266	5-Apr-09	78	49.16	280
267	5-Apr-09	79	49.13	275
268	5-Apr-09	81	49.18	340
269	5-Apr-09	83	49.17	392
270	5-Apr-09	85	49.11	257

271	5-Apr-09	87	49.16	310
272	5-Apr-09	89	49.15	260
273	5-Apr-09	90	49.10	232
274	5-Apr-09	91	49.14	194
275	5-Apr-09	93	49.09	137
276	5-Apr-09	94	49.12	76
277	6-Apr-09	10	48.92	32
278	6-Apr-09	11	48.99	24
279	6-Apr-09	12	49.03	44
280	6-Apr-09	18	49.04	40
281	6-Apr-09	19	48.98	74
282	6-Apr-09	20	48.90	102
283	6-Apr-09	22	48.77	26
284	6-Apr-09	23	48.81	74
285	6-Apr-09	24	49.15	2
286	6-Apr-09	27	49.10	301
287	6-Apr-09	28	49.16	413
288	6-Apr-09	30	49.19	666
289	6-Apr-09	31	49.16	609
290	6-Apr-09	32	49.17	567
291	6-Apr-09	33	49.19	380
292	6-Apr-09	36	49.09	519
293	6-Apr-09	37	49.11	414
294	6-Apr-09	38	49.12	369
295	6-Apr-09	39	49.10	385
296	6-Apr-09	40	49.19	453
297	6-Apr-09	41	49.01	236
298	6-Apr-09	42	48.76	245
299	6-Apr-09	43	48.76	296
300	6-Apr-09	44	48.72	298
301	6-Apr-09	45	48.79	440
302	6-Apr-09	46	48.65	431
303	6-Apr-09	47	48.80	191
304	6-Apr-09	50	48.94	262
305	6-Apr-09	51	48.68	421
306	6-Apr-09	52	48.69	430
307	6-Apr-09	53	48.97	346
308	6-Apr-09	54	48.75	381
309	6-Apr-09	55	48.89	360
310	6-Apr-09	56	48.87	314
311	6-Apr-09	57	49.12	200
312	6-Apr-09	58	49.05	287
313	6-Apr-09	59	49.04	299
314	6-Apr-09	60	48.97	283
315	6-Apr-09	61	49.00	292
316	6-Apr-09	62	49.12	213

317	6-Apr-09	63	49.03	227
318	6-Apr-09	64	49.01	203
319	6-Apr-09	66	49.09	334
320	6-Apr-09	67	49.17	265
321	6-Apr-09	68	49.07	332
322	6-Apr-09	69	49.16	521
323	6-Apr-09	70	49.11	491
324	6-Apr-09	71	49.10	473
325	6-Apr-09	76	48.85	325
326	6-Apr-09	77	48.90	340
327	6-Apr-09	78	49.04	388
328	6-Apr-09	79	48.84	327
329	6-Apr-09	80	48.98	337
330	6-Apr-09	81	48.90	355
331	6-Apr-09	82	48.83	311
332	6-Apr-09	84	49.17	392
333	6-Apr-09	85	48.86	300
334	6-Apr-09	86	49.01	247
335	6-Apr-09	89	48.77	270
336	6-Apr-09	90	48.74	301
337	6-Apr-09	91	48.90	316
338	6-Apr-09	92	49.11	331
339	6-Apr-09	93	49.12	186
340	6-Apr-09	94	49.16	268
341	7-Apr-09	13	49.05	181
342	7-Apr-09	17	48.91	1
343	7-Apr-09	18	48.82	31
344	7-Apr-09	19	48.96	164
345	7-Apr-09	20	48.95	86
346	7-Apr-09	21	48.95	105
347	7-Apr-09	22	48.81	163
348	7-Apr-09	23	48.61	214
349	7-Apr-09	24	48.96	155
350	7-Apr-09	26	49.16	101
351	7-Apr-09	27	48.99	224
352	7-Apr-09	28	48.95	215
353	7-Apr-09	30	49.16	468
354	7-Apr-09	31	49.18	451
355	7-Apr-09	34	49.09	396
356	7-Apr-09	35	49.05	342
357	7-Apr-09	36	49.18	327
358	7-Apr-09	37	49.14	352
359	7-Apr-09	38	48.94	231
360	7-Apr-09	39	48.97	235
361	7-Apr-09	40	48.93	226
362	7-Apr-09	41	49.03	183

363	7-Apr-09	42	48.72	246
364	7-Apr-09	43	48.59	171
365	7-Apr-09	44	48.79	146
366	7-Apr-09	45	48.82	323
367	7-Apr-09	46	48.62	330
368	7-Apr-09	47	48.73	326
369	7-Apr-09	48	49.14	403
370	7-Apr-09	51	48.89	376
371	7-Apr-09	52	48.69	318
372	7-Apr-09	53	48.92	429
373	7-Apr-09	54	48.62	356
374	7-Apr-09	55	48.61	229
375	7-Apr-09	56	48.68	207
376	7-Apr-09	57	49.08	158
377	7-Apr-09	58	48.98	208
378	7-Apr-09	59	48.82	223
379	7-Apr-09	60	48.83	322
380	7-Apr-09	61	48.78	319
381	7-Apr-09	62	48.74	272
382	7-Apr-09	63	48.81	275
383	7-Apr-09	64	48.82	255
384	7-Apr-09	65	49.19	255
385	7-Apr-09	66	48.97	191
386	7-Apr-09	67	48.90	229
387	7-Apr-09	68	49.06	258
388	7-Apr-09	76	49.17	293
389	7-Apr-09	78	49.18	368
390	7-Apr-09	79	49.10	295
391	7-Apr-09	80	49.10	271
392	7-Apr-09	81	49.17	139
393	7-Apr-09	82	49.14	117
394	7-Apr-09	83	49.11	119
395	7-Apr-09	84	49.17	150
396	7-Apr-09	85	49.12	78
397	7-Apr-09	86	48.91	25
398	7-Apr-09	87	49.08	32
399	7-Apr-09	88	49.26	40
400	7-Apr-09	89	48.75	18
401	7-Apr-09	90	48.66	21
402	7-Apr-09	91	48.68	91
403	7-Apr-09	92	48.92	65
404	7-Apr-09	93	49.05	124
405	7-Apr-09	94	49.04	42
406	7-Apr-09	95	49.14	70
407	7-Apr-09	96	49.16	155
408	8-Apr-09	14	49.14	400

409	8-Apr-09	15	49.17	292
410	8-Apr-09	16	49.16	290
411	8-Apr-09	17	49.12	184
412	8-Apr-09	18	49.08	106
413	8-Apr-09	19	49.05	76
414	8-Apr-09	20	48.99	146
415	8-Apr-09	21	48.83	159
416	8-Apr-09	22	48.64	178
417	8-Apr-09	23	48.67	282
418	8-Apr-09	24	49.02	213
419	8-Apr-09	35	49.18	160
420	8-Apr-09	37	49.19	173
421	8-Apr-09	38	49.09	47
422	8-Apr-09	39	49.05	40
423	8-Apr-09	40	49.11	73
424	8-Apr-09	41	49.16	75
425	8-Apr-09	42	49.01	44
426	8-Apr-09	43	49.01	63
427	8-Apr-09	44	49.05	114
428	8-Apr-09	45	49.05	113
429	8-Apr-09	46	48.87	86
430	8-Apr-09	47	48.98	43
431	8-Apr-09	37	49.19	173
432	8-Apr-09	51	48.98	81
433	8-Apr-09	52	49.03	97
434	8-Apr-09	54	49.06	126
435	8-Apr-09	55	48.97	43
436	8-Apr-09	56	49.01	45
437	8-Apr-09	57	49.13	84
438	8-Apr-09	58	48.88	83
439	8-Apr-09	59	49.01	29
440	8-Apr-09	60	48.83	34
441	8-Apr-09	61	48.96	74
442	8-Apr-09	62	49.05	64
443	8-Apr-09	63	49.15	68
444	8-Apr-09	64	49.16	135
445	8-Apr-09	66	49.11	181
446	8-Apr-09	67	49.16	190
447	8-Apr-09	68	49.17	247
448	8-Apr-09	69	49.16	326
449	8-Apr-09	76	49.07	184
450	8-Apr-09	78	49.14	228
451	8-Apr-09	79	48.94	135
452	8-Apr-09	87	49.15	324
453	8-Apr-09	89	48.96	287
454	8-Apr-09	90	48.84	382

455	8-Apr-09	91	48.76	423
456	8-Apr-09	92	48.70	351
457	8-Apr-09	93	48.80	191
458	8-Apr-09	94	49.01	197
459	8-Apr-09	95	49.09	213
460	8-Apr-09	96	49.09	206
461	9-Apr-09	1	48.89	335
462	9-Apr-09	2	48.90	250
463	9-Apr-09	3	49.12	281
464	9-Apr-09	4	49.17	373
465	9-Apr-09	5	49.08	449
466	9-Apr-09	6	49.06	437
467	9-Apr-09	7	49.11	353
468	9-Apr-09	8	49.16	308
469	9-Apr-09	10	48.99	147
470	9-Apr-09	11	49.06	200
471	9-Apr-09	13	49.08	254
472	9-Apr-09	14	49.18	218
473	9-Apr-09	16	49.14	264
474	9-Apr-09	18	49.13	109
475	9-Apr-09	20	48.98	158
476	9-Apr-09	21	49.11	175
477	9-Apr-09	22	49.14	101
478	9-Apr-09	23	49.05	77
479	9-Apr-09	27	49.07	59
480	9-Apr-09	28	49.18	152
481	9-Apr-09	33	49.18	180
482	9-Apr-09	34	49.18	172
483	9-Apr-09	35	49.14	210
484	9-Apr-09	38	49.18	202
485	9-Apr-09	39	49.05	186
486	9-Apr-09	42	49.18	203
487	9-Apr-09	45	49.17	255
488	9-Apr-09	46	49.12	99
489	9-Apr-09	47	49.06	56
490	9-Apr-09	51	49.09	138
491	9-Apr-09	53	49.19	253
492	9-Apr-09	54	49.12	139
493	9-Apr-09	55	49.08	45
494	9-Apr-09	56	49.10	11
495	9-Apr-09	61	49.12	20
496	9-Apr-09	62	49.14	61

Annexure II

STATEMENT OF OVER-DRAWL BY TNEB AT FREQUENCY BELOW 49.0 HZ

Sl.No	Date	Time-Block	Frequency	Over-drawl (MW)
1	1-Apr-09	1	48.74	275
2	1-Apr-09	19	48.98	125
3	1-Apr-09	22	48.92	207
4	1-Apr-09	47	48.95	285
5	1-Apr-09	52	48.73	329
6	1-Apr-09	53	48.82	350
7	1-Apr-09	54	48.70	333
8	1-Apr-09	55	48.79	313
9	1-Apr-09	90	48.68	359
10	1-Apr-09	91	48.75	349
11	1-Apr-09	92	48.93	262
12	2-Apr-09	1	48.98	18
13	2-Apr-09	18	48.97	62
14	2-Apr-09	22	48.96	82
15	2-Apr-09	47	48.99	26
16	2-Apr-09	76	48.86	13
17	2-Apr-09	89	48.75	352
18	2-Apr-09	90	48.64	453
19	2-Apr-09	91	48.59	474
20	2-Apr-09	92	48.86	329
21	2-Apr-09	93	48.99	263
22	3-Apr-09	52	48.93	267
23	3-Apr-09	54	48.91	330
24	3-Apr-09	56	48.94	253
25	3-Apr-09	78	48.89	147
26	3-Apr-09	85	48.97	37
27	3-Apr-09	89	48.88	168
28	3-Apr-09	90	48.69	226
29	3-Apr-09	91	48.65	254
30	3-Apr-09	92	48.68	271
31	3-Apr-09	93	48.72	180
32	3-Apr-09	94	48.90	224
33	4-Apr-09	58	48.98	14
34	4-Apr-09	76	48.95	194
35	4-Apr-09	77	48.98	198
36	4-Apr-09	78	48.78	182
37	4-Apr-09	85	48.90	143
38	4-Apr-09	89	48.84	124
39	4-Apr-09	90	48.82	151

40	4-Apr-09	91	48.81	270
41	4-Apr-09	92	48.98	279
42	4-Apr-09	93	48.87	153
43	5-Apr-09	1	48.83	245
44	5-Apr-09	2	48.85	344
45	5-Apr-09	3	48.88	301
46	5-Apr-09	14	48.87	99
47	5-Apr-09	15	48.95	168
48	5-Apr-09	16	48.94	162
49	5-Apr-09	17	48.95	73
50	5-Apr-09	20	48.99	183
51	5-Apr-09	38	48.98	58
52	5-Apr-09	42	48.74	98
53	5-Apr-09	43	48.62	14
54	5-Apr-09	47	48.94	195
55	5-Apr-09	50	48.71	28
56	5-Apr-09	51	48.94	191
57	5-Apr-09	52	48.98	352
58	5-Apr-09	54	48.94	344
59	5-Apr-09	55	48.80	228
60	5-Apr-09	61	48.98	67
61	6-Apr-09	10	48.92	32
62	6-Apr-09	11	48.99	24
63	6-Apr-09	19	48.98	74
64	6-Apr-09	20	48.90	102
65	6-Apr-09	22	48.77	26
66	6-Apr-09	23	48.81	74
67	6-Apr-09	42	48.76	245
68	6-Apr-09	43	48.76	296
69	6-Apr-09	44	48.72	298
70	6-Apr-09	45	48.79	440
71	6-Apr-09	46	48.65	431
72	6-Apr-09	47	48.80	191
73	6-Apr-09	50	48.94	262
74	6-Apr-09	51	48.68	421
75	6-Apr-09	52	48.69	430
76	6-Apr-09	53	48.97	346
77	6-Apr-09	54	48.75	381
78	6-Apr-09	55	48.89	360
79	6-Apr-09	56	48.87	314
80	6-Apr-09	60	48.97	283
81	6-Apr-09	76	48.85	325
82	6-Apr-09	77	48.90	340
83	6-Apr-09	79	48.84	327
84	6-Apr-09	80	48.98	337
85	6-Apr-09	81	48.90	355

86	6-Apr-09	82	48.83	311
87	6-Apr-09	85	48.86	300
88	6-Apr-09	89	48.77	270
89	6-Apr-09	90	48.74	301
90	6-Apr-09	91	48.90	316
01	7-Apr-09	17	48.91	1
92	7-Apr-09	18	48.82	31
93	7-Apr-09	19	48.96	164
94	7-Apr-09	20	48.95	86
95	7-Apr-09	21	48.95	105
96	7-Apr-09	22	48.81	163
97	7-Apr-09	23	48.61	214
98	7-Apr-09	24	48.96	155
99	7-Apr-09	27	48.99	224
100	7-Apr-09	28	48.95	215
101	7-Apr-09	38	48.94	231
102	7-Apr-09	39	48.97	235
103	7-Apr-09	40	48.93	226
104	7-Apr-09	42	48.72	246
105	7-Apr-09	43	48.59	171
106	7-Apr-09	44	48.79	146
107	7-Apr-09	45	48.82	323
108	7-Apr-09	46	48.62	330
109	7-Apr-09	47	48.73	326
110	7-Apr-09	51	48.89	376
111	7-Apr-09	52	48.69	318
112	7-Apr-09	53	48.92	429
113	7-Apr-09	54	48.62	356
114	7-Apr-09	55	48.61	229
115	7-Apr-09	56	48.68	207
116	7-Apr-09	58	48.98	208
117	7-Apr-09	59	48.82	223
118	7-Apr-09	60	48.83	322
119	7-Apr-09	61	48.78	319
120	7-Apr-09	62	48.74	272
121	7-Apr-09	63	48.81	275
122	7-Apr-09	64	48.82	255
123	7-Apr-09	66	48.97	191
124	7-Apr-09	67	48.90	229
125	7-Apr-09	86	48.91	25
126	7-Apr-09	89	48.75	18
127	7-Apr-09	90	48.66	21
128	7-Apr-09	91	48.68	91
129	7-Apr-09	92	48.92	65
130	8-Apr-09	20	48.99	146
131	8-Apr-09	21	48.83	159

132	8-Apr-09	22	48.64	178
133	8-Apr-09	23	48.67	282
134	8-Apr-09	46	48.87	86
135	8-Apr-09	47	48.98	43
136	8-Apr-09	51	48.98	81
137	8-Apr-09	55	48.97	43
138	8-Apr-09	58	48.88	83
139	8-Apr-09	60	48.83	34
140	8-Apr-09	61	48.96	74
141	8-Apr-09	79	48.94	135
142	8-Apr-09	89	48.96	287
143	8-Apr-09	90	48.84	382
144	8-Apr-09	91	48.76	423
145	8-Apr-09	92	48.70	351
146	8-Apr-09	93	48.80	191
147	9-Apr-09	1	48.89	335
148	9-Apr-09	2	48.90	250
149	9-Apr-09	10	48.99	147
150	9-Apr-09	20	48.98	158