

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 326/2009

Coram

**Dr. Pramod Deo, Chairperson
Shri S. Jayaraman, Member
Shri V.S.Verma, Member
Shri M Deena Dayalan, Member**

Date of hearing: 26.8.2010

Date of Order : 25.9.2012

IN THE MATTER OF

Petition under Section 79 (1) (c) and Section 79 (1) (h) of the Electricity Act, 2003
seeking directions for curtailment of overdrawl of Electricity by various utilities

AND IN THE MATTER OF

Maharashtra State Electricity Distribution Corporation Ltd, Mumbai **Petitioner**

Vs

1. Uttar Pradesh Power Corporation Ltd, Lucknow
2. Haryan Vidyut Prasaran Nigam Ltd, Panchkula
3. Dakshin Haryana Vidyut Vitran Nigam Ltd, Hisar
4. Uttar Haryana Vidyut Vitran Nigam Ltd, Panchkula
5. Punjab State Electricity Board, Patiala
6. Western Regional Power Committee, Mumbai
7. Northern Regional Power Committee, New Delhi
8. Western Regional Load Despatch Centre, Mumbai
9. Northern Regional Load Despatch Centre, New Delhi

Respondents

Present:

1. Shri Ashish Bernard, Advocate, MSEDCL
2. Shri Varun Pathak, Advocate, MSEDCL
3. Shri Rahul Srivastava, Advocate, UPPCL
4. Shri Mukesh Kumar, UPPCL
5. Shri Satish Chandra, UPPCL
6. Shri T.P.S.Bawa, HPPC
7. Shri S.K.Bansal, UHBVNL
8. Shri Sanjay Arora, HVPN
9. Shri R.K.Porwal, NRLDC
10. Ms. Jyoti Prasad, NRLDC



ORDER

Through this petition, the petitioner Maharashtra State Electricity Distribution Corporation Ltd has, *inter alia*, sought directions to restrain the constituents/utilities to restrain over-drawals of electricity beyond their allocated share and to maintain grid discipline as laid down in the Indian Electricity Grid Code. The prayers made by the petitioner are:

- “(i) Pass a direction restraining constituents/utilities from overdrawing electricity beyond their allocated share; and in case of over-drawal initiate appropriate penal proceedings against the officials of the erring Distribution Licensees or others as the case may be in accordance with law: and*
- (ii) Direct the Constituents of the Northern Grid and the Distribution Licensees to immediately make the payments in respect of their huge defaults regarding UI charge ; and*
- (iii) Pass any other order in this regard as the Hon’ble Commission may find appropriate in the circumstances mentioned above, and pass suitable directions to control the over-drawal as economic signals have failed to evoke the necessary response from the parties,*
- (iv) This Hon’ble Commission may be pleased to pass and order directing the constituents to install UFR and maintain them in proper condition;*
- (v) Any other matter which this Hon’ble Commission may deem fit in the interest of justice.”*

2. The averments made by the petitioner in support of the prayers though in most general terms are summarised. The petitioner has stated that it suffered heavy losses because of indiscriminate over-drawals by the utilities which also endangered the grid security. In order to overcome the adverse situation arising out of excessive over-drawals by other utilities, the petitioner claims to have resorted to generation at its hydro generating stations which caused depletion of water in the Hydel reservoirs.



The petitioner has alleged that despite the efforts made by it to help the grid, the grid frequency could not be maintained at safe and secure level as other utilities continued to indulge in excessive over-drawals. The petitioner has submitted that because of the over-drawals by other utilities, its consumers suffered heavily and the industry and commerce within the areas of supply were adversely affected as it had to resort to excessive load-shedding. The petitioner has stated that it has operationalized the Under Frequency Relays on the local grid, with initial trip setting at frequency of 48.8 Hz. The petitioner has brought to the notice of this Commission that there was tripping on numerous occasions during the months of August, September and October 2009 when frequency reached the precarious level below 48.8 Hz and the major breakdown could be avoided because of operation of the Under Frequency Relays. The petitioner has sought directions to the utilities for installation and maintenance of the Under Frequency Relays. The petitioner has alleged that the utilities in Northern Region were responsible for over-drawals to a large extent and has impleaded some of them but without any specifics of allegations.

3. At the outset it is pointed out that the prayer at (iii) is considered to be part of prayer at (i) and therefore, these two prayers are considered together for the purpose of present examination. From the details of the Under Frequency Relays operations filed by the petitioner it is seen that its grievance relates to the period August to October 2009. For this reason, this period is the subject matter of examination in this petition.

4. The replies have been filed by Uttar Pradesh Power Corporation Ltd (UPPCL), the first respondent, Western Regional Load Despatch Centre (WRLDC), the seventh



respondent and Northern Regional Load Despatch Centre (NRLDC), the ninth respondent. Based on the directions of this Commission, WRLDC and NRLDC have filed the details of over-drawals by the States in their respective Region.

5. UPPCL in its reply filed on 11.5.2010 has admitted to over-drawals during the period under examination. UPPCL has however, attributed these over-drawals to various factors. Briefly stated, the reasons given by UPPCL to support over-drawals are, huge gap between demand and supply, alleged inadequate allocation of power from the Central Generating Stations, inadequate or short supply of about 1000 MW by the Central Generating Stations against the allocated share, availability of insufficient power from the State generation, non-establishment by the State Government of the State Load Despatch Centre which could carry out load despatch operations independently.

6. While sharing concern for grid security, UPPCL has listed some steps it took in March and April 2010 to keep over-drawals from the grid under check and to the barest minimum by resorting to purchases from the open market. UPPCL has stated that its efforts to procure power through the power exchanges during the months of March and April 2010 did not meet with much success either because of unavailability of adequate power or on account of excessive and unaffordable rates at which the power was available at power exchanges. UPPCL has stated that it had signed Power Purchase Agreements for short-term purchase of additional power. UPPCL also brought to the notice of this Commission that one unit of Parichha Thermal Power Station had been commissioned and another unit was due for



commissioning. UPPCL has stated that establishment of some new power projects was also conceived.

7. NRLDC has filed the details of over-drawals by the States in Northern Region during the months of August to October 2009. The over-drawals by States in Northern Region during these months below frequency of 49.2 Hz, the threshold limit specified by this Commission at the relevant time, is summarised as under:

(Quantum of Over-drawal in MWh)

State	August 2009	September 2009	October 2009
Chandigarh	6221	2693	532
Delhi	21543	7501	915
Himachal Pradesh	6136	3913	1480
Haryana	18242	10193	5269
Jammu & Kashmir	4616	12688	7042
Punjab	2818	6874	1985
Rajasthan	10118	4134	1582
Uttar Pradesh	160394	117748	24914
Uttrakhand	15134	3707	3677

8. The similar details submitted by WRLDC in respect of the States in Western Region are also extracted hereunder:

(Quantum of Over-drawal in MWh)

State	August 2009	September 2009	October 2009
Gujarat	28333	33279	1251
Madhya Pradesh	5795	3036	323
Maharashtra	1349	2007	455
Chhattisgarh	16777	3246	311
Goa	2728	730	362
Daman & Diu	3557	2349	40
Dadra Nagar Haveli	3220	1294	159



9. From the details filed the Regional Load Despatch Centres it is noted that the States in both the regions have over-drawn power from the integrated grid, though the quantum of over-drawals by the States in Northern Region exceeded that by the States in Western Region. In Western Region, Gujarat overdrew power to a considerable extent during the period in question. Therefore, at some point of time, the States of the Northern Region and some States of the Western Region have overdrawn from the grid.

10. In the light of the above, we now consider the prayers of the petitioner. The first prayer of the petitioner is that directions should be issued to the constituents overdrawing electricity beyond their allocated share and in case of overdrawal, to initiate penal proceedings against the officials of erring Distribution Licensees or others as in accordance with law. It is noted that this Commission has adopted two-pronged approach, legislative and quasi judicial to curb overdrawal by the constituent States. On the legislative side, this Commission also notified the Indian Electricity Grid Code in 2010 which specified the safe operating frequency band as 49.5 to 50.2 Hz. The Grid Code was amended in March 2012 which specified the frequency band as 49.7 to 50.2 Hz. Any utility violating this frequency band through overdrawal from the grid is liable for action under section 142 of the Act for violation of the Grid Code and under section 143 of the Act for non-compliance with the directions of RLDC issued under section 26(6) of the Act. The Commission has also notified the Central Electricity Regulatory Commission (Unscheduled Interchanges and Related Matters) Regulations, 2009 as amended from time to time which prescribes commercial disincentives for overdrawal linking to the prevailing frequency and also limits on



quantum of overdrawal in a time block as well as over a day. On the judicial side this Commission has been initiating penal proceedings under Sections 142 and 143 of the Electricity Act against the erring and over-drawing utilities based on the reports of the concerned Regional Load Despatch Centres. On a number of occasions, the Officers in Charge of the erring Utilities have been called for personal appearance and admonished. Recently, the Commission has directed the Northern Regional Load Despatch Centre to identify the feeders which can be opened by it in case all its proactive actions fail to yield any result in controlling the overdrawal from the grid. The Commission has also issued notices to the Officers in Charge of STUs and SLDCs of the erring utilities of the Northern Region under section 142 of the Act to fix their personal liability for overdrawal from the grid. It is pertinent to mention that no amount of penal action will improve the situation unless the constituent States try to improve their demand management and confine their overdrawal from the grid to their respective schedule. Therefore, we direct all utilities in the country to take proactive action to arrange for power from the scheduled sources such as increasing generation, buying power through short term, medium term and long term open access and through power exchange to meet their consumer load and in case of gap between the demand and supply, to resort to rotational load shedding in order to achieve load generation balance.

11. The second prayer of the petitioner is to direct the constituents of the Northern Grid and the Distribution Licensees to make payment of their huge default regarding UI charges. It is to be noted that the Commission has been regularly monitoring the defaults in payment of UI charges based on the monthly reports



received from the RLDCs. The Commission has initiated action against the defaulting utilities under section 142 of the Act and has imposed penalties in appropriate cases. The Commission has also called the officers in charge of the defaulting utilities for personal appearance to convey and share the magnitude of the problem arising out of non-payment of UI dues in time. It is pertinent to mention that the Appellate Tribunal in its judgment dated 11.2.2010 in Appeal No 124/2009 (Delhi Transco Ltd Vs Central Electricity Regulatory Commission and another) has taken favourable note of this Commission's efforts to discourage over-drawals wherein it observed as under:

“33. The main endeavour of the Central Commission, as is evident from the Central Electricity Regulatory Commission (Unscheduled Interchange Charges and related matters) Regulation 2009 is to encourage additional generation and discourage overdrawal of electricity during low frequency conditions. Similarly, the Central Commission is to make an endeavour to discourage over generation and underdrawal under high frequency conditions. These regulations provide for UI rates for overdrawal by the buyer and under injunction by the generating station or the seller at the low frequency level. It is noticed that the UI rates at frequency range between 50Hz and 49.5 Hz vary from 180 paise to 480 paise. The tariff for new power plants is in the range of 250 paise to 350 paise per unit. The short-term rates for power are also prevailing in the range of Rs. 5/-. While considering these we feel that the UI rates are hardly sufficient to discourage overdrawal. Therefore, UI rates below 50 Hz frequency need to be so fixed so as to discourage over-drawls. In our view existing UI rates do not achieve this purpose as the frequency is likely to slide down rapidly to dangerous levels due to over-drawls, under low frequency levels.

34. During low frequency conditions, the additional generation from all the existing plants including the diesel generation captive units will improve the frequency levels. Therefore, the same needs to be encouraged. We would like to reiterate that the prevailing UI rates may not encourage all the generating stations to inject additional power into grid despite additional UI charges.”



12. The petitioner has prayed for directions to the utilities for installation and maintenance of the Under Frequency Relays. Regulation 5.2(n) of the Grid Code provides for the following with regard to installation and operation of Under Frequency Relays:

"(n) All SEBS, distribution licensees / STUs shall provide automatic under-frequency and df/dt relays for load shedding in their respective systems, to arrest frequency decline that could result in a collapse/disintegration of the grid, as per the plan separately finalized by the concerned RPC and shall ensure its effective application to prevent cascade tripping of generating units in case of any contingency. All SEBs, distribution licensees, CTU, STUs and SLDCs shall ensure that the above under-frequency and df/dt load shedding/islanding schemes are always functional. RLDC shall inform RPC Secretariat about instances when the desired load relief is not obtained through these relays in real time operation. The provisions regarding under frequency and df/dt relays of relevant CEA Regulations shall be complied with. SLDC shall furnish monthly report of UFR and df/dt relay operation in their respective system to the respective RPC.

RPC Secretariat shall carry out periodic inspection of the under frequency relays and maintain proper records of the inspection. RPC shall decide and intimate the action required by SEB, distribution licensee and STUs to get required load relief from Under Frequency and df/dt relays. All SEB, distribution licensee and STUs shall abide by these decisions. RLDC shall keep a comparative record of expected load relief and actual load relief obtained in Real time system operation. A monthly report on expected load relief vis-a-vis actual load relief shall be sent to the RPC and the CERC."

As per the above provisions, it is the responsibility of SEBs and distribution licensees to install and maintain the UFRs in functional mode so that requisite load reliefs are obtained.

13. The Under Frequency Relays in the system have been provided to protect the grid in extreme emergency conditions such as sudden fall in generation on account



of outage of the power plant or fall of grid frequency below the level of 48.8 Hz for any other reason. The Commission in para 23 (c) of the order dated 10.7.2012 in Petition No.125/MP/2012 had issued the following directions to the constituents of the Northern Region with regard to the installation and maintenance of UFRs:

"(c)The respondents shall ensure that the Under Frequency Relays (UFR) are kept in service at all times and the feeders used for load shedding through UFRs are different from the feeders used for manual load shedding so that the security of the grid is not compromised."

We direct the RLDCs, SLDCs, and RPCs to take appropriate action in accordance with Regulation 5.2(n) of the Grid Code with regard to the installation and functionality of the UFRs.

14. Before parting we place on record our appreciation for the effort of the petitioner to bring into focus the issue of grid discipline through this petition, which no other utility has done.

15. With the above, the present petition stands disposed of.

sd/- (M DEENA DAYALAN) MEMBER	sd/- (V.S.VERMA) MEMBER	sd/- (S. JAYARAMAN) MEMBER	sd/- (DR.PRAMOD DEO) CHAIRPERSON
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