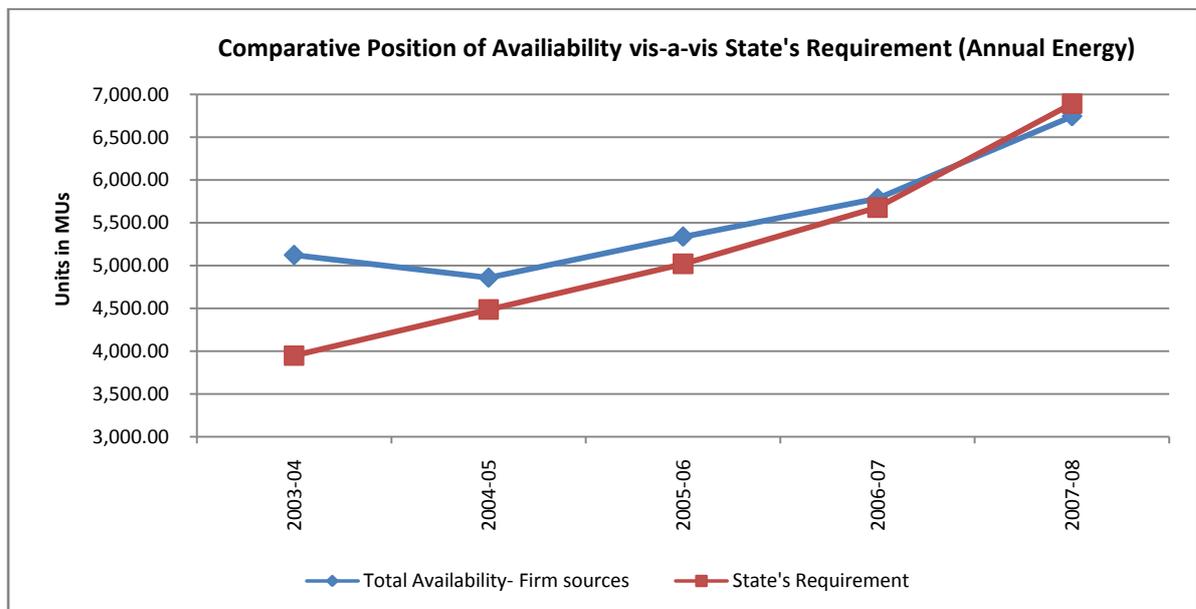


CONCEPT PAPER ON POWER CUTS

1 Background

1.1 The Commission issued its first tariff Order for retail supply on 08.09.2003. In the approved Rate Schedule RTS-7 of the said Order, which was applicable for Industrial consumers, the Commission had stipulated the charges and the penalty that would be imposable on the industry, in case restriction on usage of electricity by the industry during certain hours in the day was effected by the Commission any time after issuance of the Tariff Order. At that time, Uttarakhand was in overall energy surplus situation, and there was no deficit even during the winter months of lean generation within the State. However, the position has changed drastically over the past couple of years, due to increase in demand primarily emanating from massive industrialization taking place in the State. In winter months, the State has to face shortages which results in licensee resorting to load shedding as sufficient power is not available. The picture of overall demand and supply position of annual energy requirement of the State can be viewed in the graph given below which shows the change in this position from 2003-04 to 2007-08.



1.2 As is evident from the graph that the gap between availability and State's energy requirement is narrowing down from 2003-04 to 2005-06 and in 2006-07, the availability nearly matched the State's demand. In 2007-08, the availability has

fallen below the State's requirement. The position reflected in the graph is the annual availability and requirement position. If one looks at the month-wise position, the situation gets all the more alarming. During winter months, due to reduction in generation from hydro-electric plants, State's availability decreases whereas the demand of electricity increases. The only option left with the licensee is to either resort to load shedding or draw power from the grid through UI mechanism, which is not only at costlier rates but is also limited in quantity.

1.3 The problem of acute shortage of power first came into light during 2006-07, when UPCL approached the Commission for approval of load shedding schedule from January to March 2007, which was approved by the Commission looking at the criticality of the availability position. Again, the Commission during 2007-08, on the proposal of UPCL, for load shedding due to acute shortage of power, through its Order dated 26.12.2007, had approved the area-wise scheduled load shedding programme to be effective from 28.12.2007 to 15.2.2008 for different categories of consumers, which inter-alia included the industrial consumers. Thus, the clause containing restriction on usage of electricity by the industry during certain hours in the day as approved by the Commission in RTS-7 of the tariff order came into effect and the industries were charged higher charges for seeking continuous supply and those industries who did not opt for continuous supply had to pay a penalty.

1.4 Consequent to issue of bills for December 2007 and January 2008 by UPCL, which reflected payment of penalties on excess usage during restricted hours, the Commission received a large number of complaints, from individual industrial consumers and also collectively through Industries Association of Uttarakhand, regarding penalty being imposed on them arbitrarily for excess usage of electricity during the restricted period without giving any detail or basis.

1.5 The Commission analysed the bills of HT & LT industry consumers and discovered that not only the complaints regarding incorrect/unsubstantiated billing of penalty were prima-facie correct for large number of consumers but also there were serious violations in application of tariffs approved by the

Commission. Considering the gravity of complaints, the Commission carried out the detailed examination to obviate the difficulties faced by consumers in clearing payment of impugned bills along with the penalty.

- 1.6 The Commission issued an Order on 24.07.2008 after hearing the stakeholders and UPCL in the matter of penalty for excess usage during restricted hours during the year 2007-08. The Commission introduced the graded penalty mechanism for load violation for industries not opting for continuous supply, which was based on the number of time slots during which violation occurred and quantum of violation in excess of 15%. The penalty imposable was proportionate to number of slots of violation in a day.
- 1.7 The Commission had issued the Order on Retail Tariff for UPCL for 2007-08 & 2008-09 on 18th March 2008 to be effective from 01.03.2008 in which the conditions under Restriction in usage in RTS-7 were provisional and were to be finalized by the Commission in the due course of time. The Commission initiated the proceedings for finalization of the conditions under Restriction in usage which dealt with the tariff applicable on consumers who opt for continuous supply and penalty that is payable by non-continuous consumers who do not adhere to the discipline in the period of load restriction approved by the Commission and sought comments from the industrial consumers in the matter.
- 1.8 The Commission issued an Order on 05.12.2008 after hearing the stakeholders and UPCL in the matter of finalization of Clause-6 of RTS-7 amending the Clause-6 of RTS-7. In this Order, the Commission provided for exemption from load shedding to consumers opting for continuous supply during scheduled/unscheduled power cuts and during restricted hours of the period of restriction in usage approved by the Commission from time to time, except load shedding required due to emergency breakdown/shutdown, with 20% increase in the Energy charge as given in Rate of Charge applicable throughout the year. Other industrial consumers, not opting for continuous supply, were not allowed to use power in excess of 15% of their contracted demand during restricted hours of the period of restriction in usage approved by the

Commission from time to time. Any violation detected in usage of power during restricted hours (above 15% of contracted load) would attract a graded penalty, continuous supply surcharge and other terms as laid down in the Order.

2 Objective

2.1 With a view to give boost to the Industrialization in Uttarakhand by giving continuous and quality power, the Commission proposes to ensure that supply is available to the consumers for maximum possible time during the period of shortages and is issuing a concept paper to solicit responses/suggestions from the stakeholders in order to finalise the approach for ensuring the same. This paper attempts to lay down the procedure to be followed by the distribution licensee during this period.

3 Existing Practice

- i. Only industries opting for continuous supply are exempted from load shedding during scheduled/unscheduled power cuts and during restricted hours of the period of restriction in usage approved by the Commission from time to time, except load shedding required due to emergency breakdown/shutdown. For such consumers, 20% increase in the Energy charge as given in Rate of Charge is applicable throughout the year.
- ii. Consumers not opting for continuous supply are not allowed to use power in excess of 15% of their contracted demand during restricted hours of the period of restriction in usage approved by the Commission from time to time. For such consumers normal rate of Energy charge, Demand charge and other charges as per the approved Rate of Charge is applicable. Any violation detected in usage of power during restricted hours (above 15% of contracted load) attracts a penalty and continuous supply surcharge as follows:

- a) Graded penalty for violation of load during restricted hours of each day beyond a limit of 15% of Contracted Demand is in practice which is based on two factors, quantum of load used beyond of 15% in each time slot (30 minutes duration) of restricted hours and number of time slots during which violation occurred in restricted hours.
- b) Penalty is zero for load usage upto 15% and is proportional to load beyond this limit. Rate of penalty for each time slot (Rs./kVA or kW of Contracted Load/slot) is proportionate to the percentage of usage and is equal to Rs. 0.10 for each percent. Rate of penalty for each time slot varies from Rs 1.6 (for 16% usage) to Rs. 10 (for usage 100%) per kVA or kW of Contracted Load.
- c) The continuous supply charge of 20% on energy charges is in proportion to the number of days of violation in the month.

4 Options available

While finalizing Clause 6 of RTS-7 dealing with this issue, the Commission received suggestions from stakeholders to charge the actual cost of power purchase during the restriction period. This option was examined by the Commission in its order dated 05.12.2008 and was not found viable. Accordingly, the same is not being proposed here. Relevant extract of the said order is reproduced below:

4.3 Recovery of Additional Cost through an additional energy charge during the restricted period for Consumers opting for Continuous Supply

The Commission has taken note of the concern of stakeholders that present provision of charging 20% higher energy charge throughout the year for continuous supply is high and only the additional cost incurred to procure power for supply to industries during restricted period should be recovered through additional energy charges on the consumption during the restricted period. In this regard, the Commission in its Tariff Order for FY 2008-09 opined that "On the issue of levy of these charges throughout the year, the Commission is of the view that for making available the continuous supply to the industrial consumers, who have opted for it, the Petitioner may have to contract the capacity with generating stations and for which the Petitioner will have to pay the Fixed Charges for the entire year. If the capacity is not contracted to meet continuous supply, the additional energy required during the load shedding period

will have to be procured through short term trading or through UII route at very high rates. If the power is procured on short term basis and the impact of same is to be passed on to the consumers who have opted for continuous supply only during the period of load shedding, the additional charges to be levied will be more than 100% of normal energy charges considering the prevalent short term trading rates in the market. In order to avoid higher impact on consumers during load shedding period and to motivate the licensee to make long term arrangements for continuous supply of power, there is merit for charging reasonable premium in energy charges throughout the year."

The Commission would also like to clarify that the industries who have opted for continuous supply and pay 20% additional energy charge as nominal premium for getting assured continuous supply throughout the year and not only during the peak hours of period of restriction, which has been said to be only 2.5% in a year. They are getting premium quality of uninterrupted supply (except for breakdowns/emergency shutdowns) for entire year and even during power crisis scenarios at the cost of depriving other consumers from such electricity supply. Thus, they are not only exempted from power cuts during restriction period, they also receive the continuous supply throughout the year during any other shortages/emergencies and planned shutdowns, when other consumers are subjected to load shedding.

Thus, the suggestion that only additional cost towards costly power purchase during the period of restriction for consumption during the restricted hours cannot be accepted under above circumstances. Further, the Commission is of the view that any modification in this additional charge at this stage may lead to discrimination amongst industrial consumers particularly when 104 consumers have opted for continuous supply and already paid 20% additional charge for almost 9 months since the issue of current tariff order. Moreover, if only industrial consumers are allowed to consume power by paying additional charge during restricted hours, it will lead to discrimination amongst the various consumer categories.

The Commission is of the view that the benefit of clock drift for one time slot of half an hour that was granted to industrial consumers in its Order dated 24.7.2008 was inevitable as no corrective action for drift in RTC of the meters could be taken for the past period of January and February 2008, to which the said Order related. However, this cannot be a ground of relief for future, when UPCL is supposed to take corrective action as and when such drift is noticed while taking the meter readings. Accordingly, the Commission has not considered any relief for drifting of clock for this Order. However, UPCL is hereby directed to check the timing of all the meters of consumers to whom this Order shall apply and correct the timing of meters with clock drifting more than half an hour.

The Commission has also taken note of the suggestion of consumers for re-introduction of the concept of "Protective Load" for continuous supply consumers. However, design of any scheme for such a provision at the fag end of the financial year and that too without any database of protective load required for each continuous supply consumers, is neither practical nor amenable to any assessment of its implications on power supply position and financials of the licensee. Accordingly, the Commission is separately working on bringing out a concept paper on such a scheme, which is proposed to be decided after taking views of stakeholders and collecting the base data for finding its implications."

4.1 Existing Provisions to Continue

The first option is obviously to let the existing scheme approved by the Commission in its Order dated 05.12.2008 and discussed in Para 3 of this Paper to continue. However, the existing provision of charging 20% higher energy charge throughout the year for continuous supply, neither gives priority to the consumers that need such supply for continuous nature of their process nor does it consider the minimum critical load for each process. Considering these two aspects would entail ensuring availability of continuous supply, whether during restriction period or planned shutdowns, only to those industries that genuinely require it and would further limit the drawal of such industries to their essential minimum requirement. This is expected to relieve a good amount of pressure on demand at times of power crisis. However, implementation of such a system is feasible only for industries requiring continuous supply that have supply through independent feeders. Therefore, in order to rationalize the provision relating to continuous supply to industries, the Commission proposes a modification in the existing provisions in option 2 below.

4.2 Continuous Supply on the basis of nature of process/service

4.2.1 The first issue to be decided for allowing certain consumers to use power even during the period of restriction/power cut is whether continuous supply should be provided only to industrial consumers or other consumers categories also. The second logical question would be whether continuous supply be allowed to be made available to the consumers

during such periods on the basis of continuous nature of their process like glass, textile, paper industry, etc. or for the essential services like Hospitals, Telephone Exchange, Mobile Towers etc. or whether it should be made available to anyone who requires continuous supply by paying higher tariff. The necessary condition for maintaining continuous supply for any consumer would obviously be that the consumer should be getting supply through independent feeder only. The consumers allowed to get continuous supply during scheduled/unscheduled power cuts/restrictions shall not be subjected to power cuts except during emergency shutdowns and routine O&M with at least 24 hour prior notice to the consumer such that overall availability of supply is not below 99% and number of trippings is not more than 12 in a year. The continuous supply charges for the year shall adjusted/reduced by 1% for each %age of availability being lower than 99% and each tripping in excess of 12 after the close of each financial year.

4.3 Continuous Supply with Protective load

4.3.1 Third option may be thought of to further curtail the drawal of power to bare minimum by allowing the continuous supply consumers to avail power only upto the critical load (protective load) required to run their process/service continuously. The decision on whether a process/service is continuous/essential or not has to be taken by UPCL based on guidelines to be prepared by its management, which would have to be got approved by UPCL from the Commission. Supply to consumers not opting for continuous supply shall be deemed to be non-continuous.

4.3.2 Consumers getting supply on independent feeder at 11 kV & above voltage, emanating from sub-station, may opt for facility of protective load and avail supply during the period of scheduled roastering imposed by the Licensee, except under emergency breakdown/shutdown. Such consumer seeking continuous supply and protective load would have to

submit to UPCL the type of process/service it has and has to declare its protective load at the beginning of the financial year or at the time of making an application for new connection, whichever is later. The Protective Load shall, however, not be less than 50% of the contracted load rounded off to next higher whole number. The minimum energy consumption shall be deemed to be at 100% load factor for the sanction protective load for the purpose of billing.

4.3.3 UPCL, after verifying and being satisfied about continuous nature of industrial process, shall accord its sanction to the continuous supply and protective load and communicate the same to consumer within 15 days of receipt of application from the consumer, whereafter the sanction would be deemed to have been granted.

4.3.4 An additional charge with any of the following options shall be levied on consumers opting for continuous supply each month and for entire financial year:

- a) 100% of base demand/fixed charges per month on sanctioned protective load; or
- b) 20% additional charges on the entire energy charges in case no protective load is applicable; or
- c) 20% additional charges on the minimum energy at 100% load factor for the sanctioned protective load.
- d) During the period of scheduled roasting, the load shall not exceed the sanctioned protective load. In case the consumer exceeds the sanctioned protective load during scheduled roasting, he shall be liable to pay penalty at the rate as applicable to non-continuous consumers for excess usage beyond protective load treating exempted limit as protective load instead of 15%.

4.3.5 Non-continuous consumers, whose feeders are not cut during scheduled cuts/restrictions, would not be allowed to use power in excess of 15% of their contracted demand during the restricted hours. For any violation, the principle of graded penalty provision as stipulated in clause 6 of RTS-7 by the Commission in its Order dated 05.12.2008 shall continue, subject to fine tuning of the penalty and the surcharge by the Commission from time to time.

4.4 Proposed conditions/rules for imposing power cuts/restrictions

4.4.1 Scheduled power cuts/restrictions approved by the Commission will be as far as possible for the worst case scenario. If the actual availability is better than projected, the approved scheduled cuts will be proportionately reduced but in a transparent and non discriminatory manner. The schedule of restrictions shall, however, remain firm and not change on daily availability basis.

4.4.2 There shall be absolutely no question of scheduled cuts if:

- The grid frequency is 49.5 Hz and above, and
- If the drawls from the Grid are not exceeding the State's drawal schedule,
- Scheduling for the day is less than the entitlement

4.4.3 Except emergency roastering, any unauthorized power cuts imposed by UPCL shall invite punitive action personally on the officers responsible for doing so over and above that on the Company, and financial implications of the same shall not be passed through in tariff.

4.4.4 UPCL's proposal for imposing power cuts/restrictions shall be notified and responses invited from various stakeholders including the State Government before the Commission takes a final view on them.

4.4.5 The Commission while approving imposition of any power cuts or restrictions on supply to the consumers will normally follow the order given below:

- Non-continuous supply consumers
- Other industrial or non-domestic consumers connected with independent feeders
- Restricting consumption by industrial (above 25 BHP) and large commercial consumers (above 25 kW) on mixed feeders. This is possible as all such consumers are required to have ToD meters and their actual consumption should be read through MRI and fed directly into computers for bill generation without any human interference.
- If all the above measures proved inadequate then supply to domestic and other consumers serviced through the mixed feeders may be cut.

While doing so efforts should be to ensure that:

- Such cuts are not imposed during evening hours or early morning hours.
- No areas or feeders are given special treatment and exempted from such cuts.
- If all such feeders are not required to be cut, requisite number of feeders only may be cut but on rotational basis so that all consumers bear the brunt of such power cuts.
- The brunt of such cuts will have to be borne by domestic consumers both in rural as well as urban areas. The *inter-se* power cuts would be defined by the Commission from time to time.
- The practice of exempting some cities for their perceived importance should be stopped and all urban areas should be treated similarly.

4.4.6 The practice of exempting some consumers based on licensee's judgement of their manufacturing process or importance of their service or any other similar reason should be totally stopped.

4.4.7 The Commission, while approving the load shedding/restriction in usage proposal of the distribution licensee include any one or more of the following measures:

(a) Part or 100% restriction in usage by three phase non-continuous consumers, other than Atta Chakkis, Cold Storage, Ice factories, Sugar Mills, Petrol Pumps, Automobile service and Air filling Station, on weekly off day as may be declared by Government or in absence whereof decided by the licensee with the approval of the Commission. All three phase non-continuous consumers, shall not use power on the days in respective districts/areas specified as closed days.

(b) Part or 100% restriction by non-continuous consumers, except those listed in (a) above, during certain hours of the day throughout the year including the peak hours depending upon the daily operating hours declared by the consumer (single/double/three shift operations).

(c) All rolling and re-rolling mills receiving power from the licensee may be permitted to use energy for eight hours only, outside the peak hours, every day during the period of power cut/restriction. All arc/induction furnaces receiving power from the licensee may be asked to observe 100% power cut during throughout the day during the period of power cut/restriction. The rolling/re-rolling mills and arc/induction furnaces shall, however, be allowed to use upto 15% of the contract demand any time for essential requirements like light & fan, drinking water etc. like all other non-continuous consumers.

4.4.8 Exemptions

- (a) The Commission may exempt any consumer or class of consumers from the operation of any of the provisions of these rules/regulations to such extent and for such period as it thinks fit through an order giving reasons for it in writing.
- (b) The cuts/restrictions referred to above may not be made applicable to all of the electrical connections of any one or more of the following classes: Government Hospitals, Medical Colleges and other recognized hospitals, waterworks and POL (Petroleum, Oil and Lubricants) storage points owned by the Indian Oil Corporation Ltd. And Bharat Petroleum Corporation located in all district and corporation class towns, tubewells and pumping sets used for irrigation purposes, State Lift Irrigation Schemes and State Tube-wells, State Pumped Canals, Railway Traction, Defence and Military installations, newspaper printing presses and Government presses, milk chilling and processing centres, fruit preservation industries, cold storages, ordnance factories, HAL units, sugar mills, All India Radio Stations, Television Stations, Earth Satellite Stations, Air Force Stations and Aerodromes, Central and State Government offices etc.
- (c) All new consumers opting for continuous supply on independent feeder shall remain exempted from power cut for a period of five years from the date of connection.

4.4.9 Consumers requiring continuous supply should be required and encouraged to create captive generation capacity or arrange for power from other sources through open access so as to take care of their special requirements. This should be done within a period of 24 months after which it shall be deemed to have installed generation capacity equal to the protective load and in absence whereof the contracted load.

4.4.10 In the intervening period any consumer wanting continuous supply will be required to pay higher tariff protective load charges/PLEC in accordance with the options discussed above. This facility will be available only if they are already connected to independent feeders or when they start taking supply from the sub-station directly through independent feeders the cost of which will have to be borne by such consumers. This option shall be exercised in the beginning of financial year or date connection, whichever is later, and the enhanced tariff paid right from the beginning of the Financial Year shall not be changed till the end of the year.

4.4.11 Any consumer who has his own source of thermal/other generation of energy and that source by itself enables him to obtain the extent of power or more which allowable to him from time to time by the distribution licensee, shall observe a cut of 100% on the power supplied by the distribution licensee during the period of scheduled power cut/restriction. The period of such cut as recorded in the meters shall be deemed to be the period of non-availability for the purpose of calculating annual adjustment/reduction in additional charges for continuous supply.

4.4.12 Consumers opting for continuous supply need not be only industrial consumers but could be of any other category.

4.4.13 Without prejudice to the right of licensee to recover the penalty for excess usage during restricted hours, the licensee shall be authorized to disconnect the supply summarily without notice in relation to such installation as are found upon inspection and verification from metered data to have contravened the any provisions of power cut/restriction order. The supply shall remain disconnected for the period specified below:

(a) Contravention for the first in point of time – 5 days

(b) Contravention for the second in point of time - 10 days

(c) Contravention for the third in point of time - 20 days

(d) Contravention beyond third point of time - Permanently

Provided that for the purpose of this clause any contravention prior to 1.4.2009, shall not be taken into account. The reconnection shall only be done after payment of penalty and expiry of the above specified period whichever is later.

4.5 Proposed Roles of various stakeholders

4.5.1 Based on the above conditions, UPCL should propose a detailed procedure for carrying out load shedding or applying restriction in usage, separately for scheduled and emergency roastering, which should be got approved from the Commission from time to time. Till such time, the procedure is approved by the Commission; the above principles shall guide the entities responsible for managing power cuts/restrictions.

4.5.2 During the period when such cuts are imposed in the State, UPCL shall notify for information of all stakeholders daily position of its entitlement, scheduling and actual draws from the northern grid through daily insertions in the local newspaper on a format to be got approved from the Commission. Such notifications shall be published within 48 hours.

4.5.3 Apart from scheduled roastering plan, if any approved by the Commission, online position of power availability, area-wise consumer-wise restrictions being imposed and demand met should be posted by the licensee and also by the SLDC on its website. This position should be available in weekly reports to be prepared by SLDC for 96 slots of 15 minute period of each day of the week and such weekly report of at least one year should be available on SLDC as well as licensee's website.

4.6 Procedure for imposition of scheduled restriction/power cut

4.6.1 As and when the Commission approves UPCL's proposal for area-wise scheduled load shedding/restriction in usage, it shall be informed to the consumers through a public notice in at least one English and two Hindi daily newspaper having wide circulation in the State. The notified scheduled cut/restriction period shall be considered to be applicable only on or after the date of publication of such notice.

4.6.2 The consumers on mixed feeders may be subjected to roastering as per the approved area-wise schedule. The restriction period and corresponding penalty mechanism shall not be applicable for industrial consumers on mixed feeders subjected to such roastering. However, the mixed feeders on which continuous supply consumers are connected shall not be cut during scheduled/unscheduled load shedding.

4.6.3 In case UPCL, upon getting direction from SLDC, is required to carry out unscheduled load shedding during scheduled restriction period approved by the Commission, UPCL shall be at liberty carryout unscheduled load shedding of all industrial consumers in whole of Uttarakhand or selective areas, as required under the prevailing conditions, except for those who have opted for continuous supply. Record of Unscheduled Load Shedding shall be maintained at concerned Grid Sub-station.

4.6.4 In such cases, UPCL shall inform the period of such unscheduled load shedding to each consumer opting for continuous supply with protective load individually in areas where it proposes to carry out such load shedding. Notice through newspapers shall be considered sufficient for scheduled power cuts. Upon getting such information from UPCL, consumer shall be required to restrict its load within approved protective load during this period. In case, such consumer exceeds the sanctioned protective load during this period, he shall be liable to pay additional

100% of the prescribed base demand/fixed charges as protective load violation charge for such excess load for each month in the entire financial year. UPCL shall ensure that it does not underdraw from the grid for more than two consecutive 15 minutes time blocks during the said period.

4.6.5 In case, the power supply position improves during the period of unscheduled/scheduled load shedding, UPCL shall grant relief to consumers by first removing the restricted drawal condition from continuous supply consumers. In case of further improvement in availability, UPCL shall gradually reduce load shedding for other industrial consumers. While doing so, UPCL shall ensure that imposition and withdrawal of restriction/load shedding is carried out in equitable manner across all industries in all areas. The end of the restricted period shall be deemed to be the end of last time slot of the evening peak hours or the end of the time slot of notifying withdrawal of restriction to the consumer. In case of dispute about timing of unscheduled load shedding, records of SLDC and concerned grid sub-station may be referred to.

4.6.6 Bills for period of restriction as defined above shall be verified and signed by an officer of UPCL not below rank of Executive Director. Licensee shall also provide complete MRI load survey report along with the bill.

5 Request for response on the above issues

The Commission proposes to lay down the above proposals as basic rules for imposing power cuts/restrictions on consumers through Order. Responses on the above proposals are invited from the stakeholders, including consumers, so as to reach Commission's Office latest by 15.06.2009.