

**Uttar Pradesh Electricity Regulatory Commission  
Lucknow**

Notification No.: UPERC/Secy/Regulation/08-2133  
Dated, 19<sup>th</sup> March, 2008

In exercise of powers conferred under Section 181 read with Section-61 of the Electricity Act, 2003, and all other powers enabling in this behalf, the Uttar Pradesh Electricity Regulatory Commission hereby makes the following amendments in Uttar Pradesh Electricity Regulatory Commission (Terms and Conditions of Generation Tariff) Regulations, 2004 vide Notification no. UPERC/Secy/Regulation/ 05-248 Dated June 7, 2005, published in official gazette on 18.6.05, namely:

1. Short Title and commencement-

(1) These Regulations shall be called Uttar Pradesh Electricity Regulatory Commission (Terms and Conditions of Generation Tariff) (First Amendment) Regulations, 2007.

(2) These Regulations shall come into force from 1<sup>st</sup> April,2008.

2. The provisions of the principal Regulations notified on 18.6.05 in official gazette are amended as hereunder:-

(1) Amendment to Regulation 1, "Scope and extent of application"-

The clause (2) shall be substituted as below:

"These regulations shall come into force with effect from the date of notification and unless reviewed earlier or extended by the Commission, shall remain in force up to 31.3.09."

(2) Clause-(5) to Regulation-2 'Scope and extent of application' shall be inserted as below:

"These Regulations shall be in addition to and not in derogation to terms and conditions of determination of tariff approved by the Commission in a power purchase agreement signed between a generating company and distribution licensee(s)/beneficiary (ies). Either party to power purchase agreement may approach the Commission for specific relief, under these Regulations and

amendments thereof, if such provision or remedy is not available in the power purchase agreement signed between them.

(3) Amendments to Regulation 5, "Application for determination of tariff"-

(a) Provisos to clause (1) shall be inserted as below -

"Provided that the application for determination of tariff shall be filed covering the period for which the terms and conditions of tariff shall remain in force.

Provided also that the application for determination of tariff shall be filed for a period of five years by a generating company, covered under Clause-5 of Regulation-2, on the basis of terms and conditions for determination of tariff approved by the Commission in a power purchase agreement."

(b) The second proviso to clause (3) shall be inserted as below:

"Provided further that over or under recovery of charges by the generating company on account of provisional tariff shall be subject to retrospective adjustment on the basis of final tariff determined by the Commission. The generating company, on the basis of such final tariff, shall calculate the amount of under or over recovery of charges and bill such amount to be recovered or paid by it from or to the beneficiary (ies), for the period provisional tariff remained effective, along with simple interest calculated at rate equal to Short Term Prime Lending Rate of State Bank of India prevailing as on 1<sup>st</sup> April of the relevant year."

(4) Amendments to Regulation-16, "Norms of operation"-

(a) The clause (i) (b), in respect to Target Availability for recovery of fuel capacity charges, shall be substituted as below:

S.No.	Power Station	2005-06	2006-07	2007-08	2008-09
i)	Obra-A	64%	69%	74%	74%
ii)	Obra-B	75%	80%	80%	80%
ii)	Panki TPS	60%	65%	70%	70%
lii)	Harduaganj TPS	40%	45%	50%	50%
iv)	Parichha	60%	65%	70%	70%

(b) "Note" existing under clause (i) shall be read as "Note-1."

(c) "Note-2" shall be inserted after "Note-1" to clause (i) as below:

"In case of non-availability of unit(s) due to Renovation & Modernization, the effective capacity left after discounting capacity of such unit(s), shall be considered for the purpose of calculation of plant availability. The depreciation

and interest on working capital in the annual capacity (fixed) charges shall only be prorated to such effective capacity. The return on equity shall be utilized for repayment of loan. The above provision shall apply in case of generating stations covered under sub clauses (a) and (b) above.”

- (d) The clause (ii)(b), in respect to Target Plant Load Factor for Incentive, shall be substituted as below:

S.No.	Power Station	2005-06	2006-07	2007-08	2008-09
i)	Obra -A	55%	60%	65%	65%
ii)	Obra-B	65%	70%	75%	75%
iii)	Panki TPS	55%	60%	65%	65%
iv)	Harduaganj TPS	30%	35%	40%	40%
v)	Parichha	55%	55%	60%	60%

- (e) At the end of clause (ii), “Note-1” shall be inserted as below:

“In case of non-availability of unit(s) due to Renovation & Modernization, the effective capacity left after discounting capacity of such unit(s), shall be considered for the purpose of calculation of plant load factor in case of generating stations covered under sub clauses (a) and (b) above.”

- (f) The clause (iii) (b), in respect to Gross Station Heat Rate, shall be substituted as below:

(Figures in Kcal/Kwh)

S.No.	Power Station	2005-06	2006-07	2007-08	2008-09
i)	Obra -A	2950	2850	2850	2850
ii)	Obra-B	2750	2650	2550	2700
iii)	Panki TPS	3000	3000	2950	2950
iv)	Harduaganj TPS	3400	3350	3300	3300
v)	Parichha	3400	3250	3100	3100

- (g) At the end of clause (iii), a note shall be inserted as below: “Note-1: After Renovation & Modernisation of generating unit (s) in a generating station, the gross station heat rate shall be higher by 50 Kcal/kwh due to each of such unit for initial 120 days after its re-commissioning, in case of generating stations covered under sub clauses (a) and (b) above”.

- (h) The clause (iv) (ii), in respect to Secondary Fuel Oil consumption, shall be substituted as below:

(Figures in ml/kwh)

S.No.	Power Station	2005-06	2006-07	2007-08	2008-09
i)	Obra –A	5.0	4.5	4.0	4.0
ii)	Obra-B	2.5	2.5	2.5	2.5
iii)	Panki TPS	3.0	2.5	2.5	2.5
iv)	Harduaganj TPS	5.5	5.0	4.5	4.5
v)	Parichha	3.0	3.0	3.0	3.0

- (i) At the end of clause (iv), a note shall be inserted as below:

“Note-1: After Renovation & Modernisation of generating unit (s) in a generating station, Secondary fuel oil consumption shall be higher by 0.2 ml/kwh due to each of such unit for initial 120 days after its re-commissioning, in case of generating stations covered under sub clauses (i) and (ii) above.”

- (j) The clause (v)(iii), in respect to Auxiliary Energy Consumption, shall be substituted as below:

(Figures in %)

S.No.	Power Station	2005-06	2006-07	2007-08	2008-09
i)	Anpara-A TPS	8.0	8.0	8.0	8.5
ii)	Obra Thermal	12.0	11.0	10.0	10.0
iii)	Obra-B	9.0	9.0	8.5	9.0
iv)	Panki TPS	12.0	11.0	10.0	10.0
v)	Harduaganj TPS	12.0	11.5	11.0	11.0
vi)	Parichha	12.0	11.0	11.0	11.0

- (k) At the end of clause (v), existing ‘Note’ shall be read as ‘Note-1’ and a Note-2 shall be inserted as below:

“Note-2: After Renovation & Modernisation of generating unit (s) in a generating station, Auxiliary Energy Consumption shall be higher by 0.5% due to each of such unit for initial 120 days after re-commissioning in case of generating stations covered under sub clauses (i), (ii) and (iii) above”.

Explanation: Provisions at 4(g), 4(i) & 4(k) shall be applicable provided generation from such re-commissioned unit(s) can be verified separately or else it will be prorated in the number of units in the generating station..

(5) Amendment to Regulation 19, "Sale of Infirm Power"-

The Regulation 19 shall be substituted as below:

"The cost of infirm power shall be the energy charge calculated on the basis of cost of fuel and the norms of Gross Station Heat Rate, secondary fuel oil consumption and auxiliary energy consumption specified for calculation of variable charge during stabilization period.

Provided that the generating company shall inform to the State Load Despatch Centre about its schedule for supply of such power one hour prior to testing of the generating station.

Provided also that the startup power drawn by the generating station from the grid shall be adjusted with ex-bus energy and such energy shall be billed to its beneficiaries in the proportion of contracted capacities."

(6) Amendments to Regulation-21, "Computation of capacity (fixed) charges" -

(a) The sub clause (h) shall be inserted under clause (i) as below:

"(h) In case, the generating company has contracted floating/variable rate of interest on loan resetting at certain interval of time, the impact of change in rate of interest shall be assessed by the generating company on account of such resetting duly certified by Statutory Auditor and the capacity charge of the relevant year shall be adjusted for such impact and billed accordingly to beneficiary without approaching the Commission for change in tariff on this account.

Provided that the generating company shall make every effort to refinance/swap the loan as long as it results in net benefit to the beneficiaries. The costs associated with such refinancing/swapping shall be borne by the beneficiaries. Both the above facts shall be certified by Statutory Auditor.

Provided also that in case of dispute, any party to such dispute may approach the Commission with proper application and it shall be ensured that the payment to the generating company is not withheld during pendency of the dispute".

(b) The clause (iv) (a), in respect to Operation and Maintenance expenses, shall be substituted as below:

(Rs. in lakh/MW)

Year	200/210/250 MW sets	500 MW and above sets
2005-06	10.82	9.73
2006-07	11.25	10.12
2007-08	11.70	10.52
2008-09	12.29	11.05

(b) The clause (iv) (b), in respect to Operation and Maintenance expenses, shall be substituted as below:

(Rs. in lakh/MW)

Year	Obra-A	Obra-B	Panki	Parichha	Harduaganj
2005-06	11.61	11.61	11.44	11.44	11.61
2006-07	12.07	12.07	11.90	11.90	12.07
2007-08	12.55	12.55	12.37	12.37	12.55
2008-09	13.18	13.18	13.00	13.00	13.18

(c) Clause (v) (iv) in respect to Interest on Working Capital shall be replaced as below:

“Maintenance spares @ 1% of the historical cost escalated @ 6% per annum from the date of commercial operation; and”

(7) Amendment to Regulation 23, “Incentive”-

The clause (3) shall be inserted as below:

“In case of commissioning of a thermal power station or part thereof ahead of schedule, as set out in the approval of Commission, the generating station shall be eligible for incentive of an amount equivalent to prorata reduction of interest during construction due to commissioning ahead of schedule. The incentive shall be recovered through tariff in twelve equal monthly installments during first year of operation of generating station. In case of delay in commissioning, as set out by the Commission, interest during construction for the period of delay shall not be allowed to be capitalized for determination of tariff, unless it is shown that the delay is on account of force majeure conditions.

(8) Amendment to Regulation 24, “Unscheduled Interchange (UI) charges”-

Regulation 24 (1) shall be substituted by the following-

“Variation between actual generation or actual drawal and scheduled generation or scheduled drawal shall be accounted for through Unscheduled Interchange (UI) Charges. UI for a generating station shall be equal to its actual generation minus its scheduled generation. UI for a beneficiary shall be equal to its total actual drawal minus its total scheduled drawal. UI shall be worked out for each 15-minute time block.

Charges for all UI transactions shall be based on average frequency of the time block and the following rates shall apply:

Average frequency of time block (Hz)

Below	Not below	UI Rate (Paise per kWh)
----	50.50	0.0
50.50	50.48	8.0
50.48	50.46	16.0
-----	-----	-----
-----	-----	-----
49.84	49.82	272.0
49.82	49.80	280.0
49.80	49.78	298.0
49.78	49.76	316.0
-----	-----	-----
-----	-----	-----
49.04	49.02	982.0
49.02	-----	1000.0

(Each 0.02 Hz step is equivalent to 8.0 paise/kWh in the 50.5-49.8 Hz frequency range, and to 18.0 paise/kWh in the 49.8-49.0 Hz frequency range)

Provided that in case of generating stations with coal or lignite firing and stations burning only APM gas, UI rate shall be capped at 406 paise per kWh when actual generation exceeds the scheduled generation.

**Note**

The average frequency range and UI rates shall be subject to change as notified by the Central Electricity Regulatory Commission from time to time.

(9) Amendments to Regulation-32, “Norms of operation”-

(a) “Note” existing under clause (i) shall be read as “Note-1”

(b) “Note-2” shall be inserted after “Note-1” to clause (i) as below:

“In case of non-availability of unit(s) due to Renovation & Modernization, the effective capacity, left after discounting such capacity, shall be considered for the purpose of calculation of capacity index. The depreciation and interest on working capital in the annual fixed charge shall only be prorated to such effective capacity. The return on equity shall be utilized for repayment of loan.”

(10) Amendment to Regulation-33, “Capital cost”-

The following shall be inserted before first proviso to Regulation-33 in respect to ‘capital cost’:-

“Provided that the requirement of higher initial spares due to reasons specific to a generating station shall be decided by the Commission on case to case basis on an application filed by the generating company.”

(11) Amendment to Regulation 35, “Sale of Infirm Power”-

The Regulation 35 shall be substituted as below:

“The cost of infirm power shall be equal to half of the average of the lowest variable charges of central sector thermal power generating station of the Northern Region for all months of the previous year as determined by the Central Commission and the same shall be treated as an advance made by the beneficiaries to the generating company towards meeting the expenses on the Income Tax in subsequent year(s).

Provided that the generating company shall inform to the State Load Despatch Centre about its schedule to supply such power one hour prior to testing of the generating station.

Provided also that the startup power drawn by the generating station from the grid shall be adjusted with ex-bus energy and such energy shall be scheduled to its beneficiaries in the proportion of contracted capacities.”

(12) Amendments to Regulation-38, “Computation of annual fixed charge”-

(a) Sub-clause (h) to clause (i) shall be inserted as below:

“(h) In case, the generating company has contracted floating/variable rate of interest on loan resetting at certain interval of time, the impact of change in rate of interest shall be assessed by the generating company on account of such resetting duly certified by Statutory Auditor and the annual fixed charge of the relevant year shall be adjusted for such impact and billed accordingly to beneficiary without approaching the Commission for change in tariff on this account.

Provided that the generating company shall make every effort to refinance/swap the loan as long as it results in net benefit to the beneficiaries. The costs associated with such refinancing/swapping shall be borne by the beneficiaries. Both the above facts shall be certified by Statutory Auditor.

Provided also that in case of dispute, any party to such dispute may approach the Commission with proper application and it shall be ensured that the payment to the generating company is not withheld during pendency of the dispute”.

(b) The third proviso to clause (iv) (a) shall be inserted as below:

“Provided that the rate of escalation of operation & maintenance expenses for year 2008-09 shall be 5%.”

(c) The proviso to clause (iv) (b) shall be inserted as below:

“Provided that the rate of escalation of operation & maintenance expenses for year 2008-09 shall be 5%.”

(d) The proviso to clause (iv) (c) shall be inserted as below:

“Provided that the rate of escalation of operation & maintenance expenses for year 2008-09 shall be 5%.

Provided also that the Commission may consider revising the percentage, subject to ceiling of 2.5% of capital cost, for tracing the O&M expense from the capital cost of the project on case to case basis.”

(e) Clause (v) (ii) in respect to Interest on Working Capital shall be replaced as below:

“Maintenance spares @ 1% of the historical cost escalated @ 6% per annum from the date of commercial operation; and”

(13) Amendment to Regulation-39, “Primary and Secondary Energy Charge”-

(a) Clause (2) shall be substituted as below:

“Rate of primary energy for all hydroelectric power generating stations, except for pumped storage generating stations, shall be equal to average of the lowest variable charges of central sector thermal power generating station of the northern region for all months of the previous year as determined by the Central Commission. The primary energy charge shall be computed based on the primary energy rate and saleable scheduled primary energy of the station.

Provided that in case the primary energy charge recoverable by applying the above primary energy rate exceeds the Annual Fixed Charge of a generating

station, the primary energy rate for such generating station shall be calculated by the following formula:

$$\text{Primary energy rate} = \frac{\text{Annual Fixed Charge}}{\text{Saleable Primary Energy}}$$

(b) The Explanation shall be inserted at the end of Regulation-39 as below:

“Explanation-In case of generating stations where annual fixed charge is less than the primary energy charges obtained by multiplying average lowest variable charge of the thermal power generating station of the Region and saleable primary energy of the station, in such cases the rate of primary energy shall be calculated, under the proviso to clause (2) of the Regulation 39, by dividing annual fixed charge by saleable primary energy. However, capacity charges shall be recovered as per the provisions of Regulation 48.”

(14) Amendment to Regulation 42, “Unscheduled Interchange (UI) charges-

Regulation 42 shall be substituted by the following-

“(1) Variation between actual generation or actual drawal and scheduled generation or scheduled drawal shall be accounted for through Unscheduled Interchange (UI) Charges. UI for a generating station shall be equal to its actual generation minus its scheduled generation. UI for a beneficiary shall be equal to its total actual drawal minus its total scheduled drawal. UI shall be worked out for each 15-minute time block.

Charges for all UI transactions shall be based on average frequency of the time block and the following rates shall apply:

Average frequency of time block (Hz)

Below	Not below	UI Rate (Paise per kWh)
----	50.50	0.0
50.50	50.48	8.0
50.48	50.46	16.0
-----	-----	-----
-----	-----	-----
49.84	49.82	272.0
49.82	49.80	280.0

49.80	49.78	298.0
49.78	49.76	316.0
-----	-----	-----
-----	-----	-----
49.04	49.02	982.0
49.02	-----	1000.0

(Each 0.02 Hz step is equivalent to 8.0 paise/kWh in the 50.5-49.8 Hz frequency range, and to 18.0 paise/kWh in the 49.8-49.0 Hz frequency range)

#### Note

The average frequency range and UI rates shall be subject to change as notified by the Central Electricity Regulatory Commission from time to time.

- (2) (i) The hydro-electric generating stations are expected to respond to grid frequency changes and inflow fluctuations. They would, therefore, be free to deviate from the given schedule, as long as they do not indulge in gaming, and do not cause a grid constraint. As a result, the actual net energy supplied by a hydro-electric generating station over a day may differ from the Scheduled Energy (ex-bus) for that day. A compensation shall then be made by the concerned Load Despatch Centre in the schedule for the (Day + 3), as described in clause (xix) of Regulation 45.
- (ii) The concerned Load Despatch Centre shall periodically check that the generating station is declaring the capacity and energy sincerely, and is not manipulating the declaration with the intent of making undue money through UI.
- (iii) This provision shall be applicable with effect from the date specified by the Commission for implementation of ABT in the State.”

#### (15) Amendment to Regulation 45, “Scheduling”-

(a) Clause (xii) of Regulation 45 of the principal regulations shall be substituted as under, namely:-

“Revision of declared capability and energy by the generator(s) and requisition by beneficiary (ies) for the remaining part of the day shall be permitted, but only in case of a contingency. Revised schedules/declared capability in such cases shall become effective from the 6<sup>th</sup> time-block, counting the time-block in which the request for revision has been received in the Load Despatch Centre to be the first one.”

(b) After clause (xviii) of Regulation 45 of the principal regulations, the following shall be added, namely:

“(xix) The schedule finalized by the concerned Load Despatch Centre for a hydroelectric generating station shall normally be such that the scheduled energy for a day equals the total energy (ex-bus) expected to be available on that day, as declared by the generating station, based on foreseen / planned water availability / release. It is also expected that the total net energy actually supplied by the generating station on that day would equal the declared total energy, in order that the water release requirement is met. While the 15-minute wise deviations from schedule would be accounted for as Unscheduled Interchange (UI), the net energy deviation for the whole day, if any, shall be additionally accounted for as shown in the illustration.

**Illustration**

Suppose the foreseen/expected total energy (ex-bus) for Day 1 is E1, the scheduled energy is S1, and actual net energy (metered) is A1, all in ex-bus MWh. Suppose the expected energy availability for Day 4, as declared by the generator, is E4. Then, the schedule for Day 4 shall be drawn up such that the scheduled energy for Day 4, shall be

$$S4 = E4 + (A1 - E1).$$

$$\text{Similarly, } S5 = E5 + (A2 - E2),$$

$$S6 = E6 + (A3 - E3),$$

$$S7 = E7 + (A4 - E4), \text{ and so on.}$$

By Order of the Commission

Secretary