CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI

Petition No.187/MP/2013

Coram:
Shri Gireesh B.Pradhan, Chairperson
Shri A.K.Singhal, Member
Shri A.S.Bakshi, Member
Dr. M.K.Iyer, Member

Date of order: 20th of March, 2017

In the matter of

Non-compliance of Regulations 6.4.6, 6.4.9, 2.3.1.5 of Central Electricity Regulatory Commission (Indian Electricity Grid Code) Regulations, 2010 and Regulation 7.2 of Central Electricity Regulatory Commission (Unscheduled Interchange charges and related matters) (Second Amendment) Regulations, 2012 endangering the secured grid operation in Southern Region by consistent under injection of power by Meenakshi Energy Private Limited, Nellore.

And
In the matter of

Southern Regional Load Despatch Centre
29, Race Course Cross Road,
Bangalore- 110 016 **….Petitioner**

Vs

1. Sr. Vice President (Finance)
Meenakshi Energy Private Limited,
Plot No. 119, Road No. 10, Jubliee Hills,
Hyderabad- 500033

2. Dy. General Manager (Electrical)
Meenakshi Energy Private Limited,
Thamminapatnam, Chillakur, Mandal,
Nellore District- 524412

3. Chief Engineer
SLDC, APTRANSCO, Vidyut Soudha,
Hyderabad- 500082 **....Respondents**

Member Secretary
Southern Regional Power Committee
29, Race Course Cross Road,
Bangalore- 110016 **…Proforma Respondent**

The following were present:

Shri V.Suresh, SRLDC
Ms. Jayantika Singh, SRLDC
Shri Sitesh Mukherjee, Advocate, MEPL
Shri Deep Rao, Advocate, MEPL
Shri Jafar Alam, Advocate, MEPL
Shri Maszag Andrabi, MEPL

ORDER

The petitioner, Southern Regional Load Despatch Centre, has filed the present petition seeking direction to the respondent, Meenakshi Energy Private Limited (MEPL), to maintain the injection of power strictly as per the schedule in terms of the provisions of the Central Electricity Regulatory Commission (Indian Electricity Grid Code) Regulations, 2010 (Grid Code) and the Central Electricity Regulatory Commission (Unscheduled Interchange Charges and related matters) Regulations, 2012 (UI Regulations).

2. The Commission after due examination of the petition, vide order dated 13.10.2015 took a *prima facie* view that there was gaming by MEPL and directed Member- Secretary, SRPC to investigate into the incidence of gaming by MEPL for the period from 1.1.2013 to 31.12.2013 in terms of Regulation 6 (6) of the UI Regulations. Both SRLDC and MEPL were directed to place all necessary materials before Member-Secretary, SRPC who shall, after considering the relevant material and hearing the parties, submit a report to the Commission. The Commission further took a view that MEPL through consistent under-injection violated the provisions of Regulations 6.4, 6.4.9 and 2.3.1.5 of the Grid Code and Regulation 7.2 of the UI Regulations. The Commission directed MEPL to explain as to why appropriate penalty should not be imposed on it under Section 142 of the Electricity Act, 2003 (Act) for violation of the provisions of the Grid Code and UI Regulations. Relevant portion of the order dated 13.10.2015 is extracted as under:

"23. We have considered the submissions with regard to gaming. There is no denial by MEPL that there was under-injection during the period January 2013 to December 2013. However, MEPL has submitted that under-injection does not qualify for "gaming" under the UI Regulations. Gaming has been defined in Regulation 2 (ee) of the UI Regulations as under:

> "(ee) „gaming" in relation to these regulations, shall mean an intentional mis-declaration of declared capacity by any generating Station or seller in order to make an undue commercial gain through Unscheduled Interchange charges."

According to MEPL, an entity gains through UI charges only when it injects above the schedule and not in case of under-injection. We are unable to agree with MEPL. Gaming can occur both in case of over-injection and under-injection in relation to schedule. If an entity over-injects, its gets payment for the scheduled generation from the buyer of electricity and UI charges for the injection over the schedule. If an entity under injects, it pays UI charges to the extent of under-injection but commercially it meets the requirements of schedules and avoids the penalty for short supply. Thus, by paying UI charges, the entity gains through under-injection. We do not agree with MEPL that gaming cannot be assessed with reference to the commercial terms in the PPA. Since RLDC is required to schedule power in terms of the contract, any loss/gain on account of deviation from the schedule will have to be considered in the light of the provisions of the contract.

24. The under-injection data for the period from January 2013 to December 2013 from the website of SRPC reveals that the under-injection was more when MEPL was selling power through Short Term Open Access and Power Exchanges. In case of MTOA transactions, average under-injection was of lesser magnitude as compared to transactions through Short Term Open Access and Power Exchanges. However, MEPL did not properly seek revisions of schedule during MTOA also. The possibility of intentional under- injection cannot be ruled out completely as there was no loss to MEPL, as it did not take any shut down even during problem in the plant.
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26. In view of the data placed on record by SRLDC which have not been refutted by MEPL, we are of *prima facie* view that there is gaming by MEPL. We direct Member-Secretary, SRPC to investigate into the incidence of gaming by MEPL for the period from 1.1.2013 to 31.12.2013 in terms of Regulation 6 (6) of the UI Regulations. Both SLRDC and MEPL are directed to place all necessary materials before Member-Secretary, SRPC who shall, after considering the relevant material and hearing the parties, submit a report to the Commission by 31.11.2015.

27. Without prejudice to the investigation into gaming by Member-Secretary, SRPC, we are of the view that MEPL through consistent under-injection has violated the provisions of Regulations 6.4, 6.4.9 and 2.3.1.5 of the Grid Code and Regulation 7.2 of the UI Regulations. The arguments of MEPL that its O & M staff was not well trained and there was problem in stabilization of the units, cannot be accepted as the justification for violation of the provisions of the regulations and jeopardizing the grid security. MEPL is directed to explain by 15.11.2015 as to why

appropriate penalty should not be imposed on it under Section 142 of Act for violation of the provisions of the Grid Code and UI Regulations."

3. SRPC, after investigation of incidence of gaming by MEPL for the period from 1.1.2013 to 31.12.2013, under its letter dated 27.11.2015 has submitted report. Finding and analysis of the report is extracted as under:

Particulars		
Time Period of Investigation	Months	12 (Jan., 13 to Dec., 13)
Total Number of time-blocks analyzed	No's	35,040
Total Schedule Energy during the Period	MU	1,189.89
Total Energy Generated during the Period	MU	1,095.835
Details sought from MEPL		
Weighted Average Contract Price	Rs/Unit	5.63
Weighted Average POC Charges	Rs/Unit	0.11
Weighted Average POC Losses	Rs/Unit	0.10
Weighted Average Trading Margin	Rs/Unit	0.17
Weighted Average Fixed Charge	Rs/Unit	2.86
Weighted Average Variable Charge	Rs/Unit	2.39
Details sought from SRLDC		
Net Under Injection	MU	94.05 (A1)
Total Over Injection	MU	22.02 (B1)
Total Under Injection	MU	116.07(C1)

No. 1: Was under injection based on frequency and UI Rates?

(a) Frequency profile was between 49.72 Hz to 50.16 Hz for about 90% of the time.

(b) A generator may tend to under inject in case the penalty paid under UI mechanism is less than its variable cost. The variable cost of the generator works out to Rs 2.39 /Unit.

(c) To derive commercial gains, the generator needs to under inject at frequency above 49.96 Hz and over inject below 49.94 Hz;

(d) Below 49.94 Hz, the generator has under injected 48.411 MU.

(e) It cannot thus be inferred that generator has intentionally under generated in real time basis to save fuel costs and pay UI rates since for 51.34 % of time when the frequency rates were more than variable cost, the generator has under injected 48.411 MU.

No. 2: Whether the generator had signed PPA for more than the quantity it could generate?

Maximum Schedule was 264.69 MW on 22nd June, 2013 and 2 Units of 150 MW capacity, each in operation.

Issue No. 3: Whether under injection was on a consistent basis?

Out of 116.07 MU under injected, 85.484 MU was under injected with in 10.59% time. During such time, under injection was more than 40 MW in each block. The over injection was 22.02 MU in 43.3% time.

Issue No. 4: What is the reason of high under injection?

There were 40 nos. of tripping of Unit 1 and 37 nos. of tripping of Unit 2 during this period. 68.940 MU of energy was under injected since unit(s) was not in a position to generate and schedule was restored after declared expected time in synchronization of the unit. Part 6.5 of the Grid Code provides as under:

> "19 Notwithstanding anything contained in Regulation 6.5(18) in case of forced outage a unit for a Short Term bilateral transaction where a generator of capacity of 100 MW and above is seller, the generator shall immediately intimate the same along with the requisition for revision of schedule and estimated time of restoration of the unit, to SLDC/RLDC as the case may be".

Hence, any generator is constrained to assess estimated time of restoration of the unit while submitting the request of revision of schedule. However in real time the estimated time of restoration may not be very accurate since it is based on a very preliminary assessment.

No 5. What was the commercial gain to the generator?
Total UI penalty paid by the generator, whenever it had under injected, was Rs 26,72,44,874. The only saving which generator could have achieved through under injecting is saving in fuel cost. Considering its variable cost of Rs 2.39 /unit the cost saving in fuel works out to be around Rs 1,01,63,184.

No. 6: Whether the generator intentionally tripped the unit?

If the generator had intentionally tripped it would have done so only to save the fuel cost since all other costs are incidental and no saving could have been made through intentionally tripping. After any such tripping, to bring back the unit, secondary fuel such as High Speed Diesel (HSD) would need to be used which could be around 46 KL/ synchronization from cold start. Cost of each KL of HSD is around Rs 60,000. Hence, it would have cost the generator around Rs 4.76 Cr for 70 tripping, which had led to high under injection.

Conclusion:
A commercial gain of about Rs 1,01,63,184 may have accrued to the generator on account of fuel saving. However, it is felt that gaming cannot be established conclusively as major quantum of under injection due to constraint in accurate assessment of the estimated time of restoration of the unit after tripping."

4. In response to the show cause notice, MEPL vide its affidavit dated 7.12.2015, has submitted as under:

(a) Deviations from injection schedule were not the result of acts of indiscipline by MEPL. Since deviations were the result of various technical and operational problems and regulatory constraints, MEPL ought not to be held guilty of grid indiscipline as its deviations from schedule occurred due to reasons beyond its control and despite its best efforts.

(b) MEPL being a new generating company successfully commissioned its two units of Phase I of 300 MW (2X150 MW) in 2012 and 2013 respectively. These units are based on the Babcox and Wilcox Internal Recirculation Circulating Fluidised Bed Combustion boiler (IR-CFBC) technology. MEPL was the first thermal power plant in the country to install boilers using IR-CFBC technology with a capacity of 495 TPH. Since, IR-CFBC technology was novel it posed several technical challenges for MEPL which led to MEPL deviating from its generation schedule.

(c) Regulation 6(2) of the UI Regulations casts a limited obligation upon a generating station, namely, to generate power as per schedule only "as far as possible"

(d) As per Regulation 6.4.9 of the Grid Code, power plants may deviate from their schedule for reasons beyond their control and despite their best efforts.

Accordingly, Regulation 6.4.9 of the Grid Code also casts a limited obligation upon generating stations, namely, to "generally" adhere to their schedules, as opposed to even under circumstances that are beyond the control of the generating station.

(e) Since, MEPL discharged its obligations under Regulation 6(2) of the UI Regulations and Regulation 6.4.9 of the Grid Code, it should not be penalized under Section 142 of the Act for violating Regulations 7(2) of the UI Regulations and Regulation 6.4.9 and 2.3.1.5 of the Grid Code.

(f) Due to various regulatory restrictions, MEPL could not revise its schedule even after becoming aware that it could not comply with the scheduled. The regulatory restrictions which prevented MEPL from revising its schedule to prevent deviation, include the following:

(i) As per clause 11 of the Procedure for scheduling of STOA for bilateral transactions, a power plant participating in a short term bilateral transaction may revise its approved schedule only two days in advance of the schedule, excluding the date on which such an application is made. Consequently, if a power plant learns of its inability to comply with its schedule less than two days in advance, it is not permitted to revise its schedule leading to a forced deviation. Therefore, even when MEPL became aware of its inability to comply with its original schedule, the Procedure for Scheduling of STOA for bilateral transactions prevented MEPL from revising its schedule and it was forced to deviate.

(ii) The Procedure for scheduling of STOA for bilateral transactions prevents scheduled revisions for day-ahead transactions and the

Procedure for Scheduling of STOA for Collective Transactions does not contain a provision in this regard. As a result, where a power plant is participating in short term bilateral transactions or collective transactions, it is not permitted to revise its schedule. Therefore, MEPL deviated from its schedule while carrying out transactions on the IEX as it could not revise its schedule despite learning, in the course of the day, that it could not meet its schedule due to technical and operational constraints. Further, even when MEPL found that it took longer than expected to the power plant to resume operations after tripping, it was constrained to deviate as further revisions of the schedule were not permitted.

(iii) In instances of forced outage or tripping of a unit participating in short term bilateral transactions, Grid Code provides that a generator is required to immediately intimate the concerned RLDC of the same with a requisition for a revision of its schedule. Thereafter, the revised schedules would only become effective from the 4th time block from when the forced outage is declared. Therefore, the generator would be considered to have deviated from the schedule for the intervening four time blocks. Hence, MEPL's deviations ought not to be treated as grid indiscipline on account of regulatory restrictions.

(g) MEPL's deviations are significantly fewer. There is a significant mis-match between the under-injection data provided by SRLDC and the actual data maintained by MEPL from the official website of SRLDC.

(h) The Commission in order dated 13.10.2015 observed that SRLDC concluded that MEPL earned Rs. 31.97 crore as earnings under MEPL's Letters of Intent for

the sale of power to AP-DISCOMs and avoided a penalty of Rs. 7.3 crore under its PPAs by under-injecting. While arriving at the above estimates, SRLDC appears to have considered the rate of sale as per the PPAs as the benchmark to calculate MEPL's earnings. SRLDC has failed to consider that a significant number of transactions were carried out by MEPL on the Power Exchange at a much lower tariff than under the PPAs, which effectively results in different weighted average rate for each time-block of the corresponding period. Therefore, SRLDC's estimation of the gain made by MEPL is grossly overstated.

(i) SRLDC appears to have included the injection of infirm power during synchronization and commissioning of unit-2 of MEPL's power plant as part of its computation of MEPL's over-injection.

(j) The net economic gain made by MEPL on account of its deviations may be measured by finding the difference between the amounts that MEPL would have saved or earned despite the said deviations. The difference between these amounts is only the cost of the coal which was not used by MEPL on account of actual generation being less than the schedule. The fixed cost associated with the plant is bound to be incurred irrespective of whether the plant generates at full load or part load. The true estimate of the economic gain made by MEPL in the instant case can be arrived at only after factoring the fixed costs incurred. MEPL has given the following calculation of its economic gain as under:

1.	Economic gain with Grid Compliance	(-) Rs. 1.59 crore
2.	Economic gain without Grid compliance	(+) Rs.6.64 crore
3.	Effective UI realisation	(+) Rs. 5.05 crore
4.	Adjustment for specific oil consumption during	(-) Rs. 4.77 crore

	cold start	
5	Effective gain/loss adjusted for cost incurred during cold start	(+)Rs.0.29 crore

(k) MEPL's deviations occurred due to reasons beyond its control despite best efforts. Therefore, deviation did not amount to violations of Regulations 6.4.6, 6.4.9 and 2.3.1.5 of the Grid Code and Regulation 7(2) of the UI Regulations.

(l) MEPL's case is fit for the Commission to exercise its powers of relaxation under Regulation 12 of the UI Regulations and Regulation 7(4) of the Grid Code in favour of MEPL.

5. MEPL and SRLDC, vide Record of Proceedings for the hearing dated 16.2.2016, were directed to file their replies to the report of SRPC.

6. MEPL, vide its submissions dated 15.2.2016, has submitted that the following remedial measures were undertaken by it to resolve the operational and technical constraints:

S. No.	Key Issue	Outcome after taking action by MEPL
1.	Low Pressure (LP) Turbine differential expansion	• At present, the turbines are started through the ATRS, so that the machine is ready for synchronization within the estimated time. This helps in minimizing the schedule deviations. • Periodic training and refresher module training was provided to the operators so that they maintain the start-up steam parameters within the permissible limits of cold/ warm starts. • MEPL adopted advice received from its OEM to keep oil firing to a minimum till

		synchronization so that steam parameters are stable, hence the turbine components expand gradually and uniformly. • The problem has now been resolved.
2.	Manual Boiler Operation	• Remedial measures resulted in significantly improved control over the load with varying coal conditions and grid requirements. This also improved control over the ramping rate which helped in curtailing the deviation between schedule and generation. • Unit run back test was demonstrated successfully. This helps operators to achieve schedule revision and avoid over or under estimation of unit capability and stability, thereby facilitating meeting the schedule
3.	Inefficient bed material circulation within the boiler	• The issue of high boiler bed temperature is now resolved. • Apart from this, required bed material quality is also being sourced from reliable contractors for consistent and efficient performance of the boiler. • The bed temperature is being maintained through the control system. Sudden surges in temperature & load reduction have been controlled. • The modified bed ash conveying system is functioning satisfactorily so that bed particle size is maintained to keep the furnace temperature within the limit thus avoiding load reduction associated with bed temperature.
4.	Failing Mechanical Dust Collector	• The issue has been resolved. MDC system failure was rarely observed, thereafter.
5.	Turbine Vibrations	• No vibration issues were observed thereafter.
6.	Lack of automated operation	• MEPL is the only power plant with CFBC boiler operating on CMC mode with significantly high reliability.
7.	Developing an Improved operating Procedure for Plant Start and Shut down	• Transition from Manual to Process driven plant has resulted in curtailing schedule deviations.
8.	Improper bed material Conveying System	• Conveying system has improved a lot and the impact of improper bed material feeding has come to naught.
9.	Availability of Boiler Feed Pumps (BFPs)	• All three BFPs are available at all times in AUTO mode.

		• In the event of any one BFP trips the standby comes in and save the unit whereby load schedule is maintained. • The issue has been resolved.
10.	Main cooling water pump frequent failure	• All pumps were fully available after carrying out the remedial measures. • A standby pump auto control system commissioned and working well to support the system in case of any one of the unit trips.
11.	Frequent tripping of the Boiler fans	• The issue was resolved after the remedial measures were undertaken.
	Unreliable start-up oil burners	• Oil gun start reliability has significantly improved and the issue has been resolved. • Barring a few exceptions, the oil firing stabilizes within one or two attempts. • MEPL is able to stabilize the oil firing within less than 1 hour of start-up.
11.	Coal Quality	• Under injection on account of high bed temperatures has been mitigated from the last quarter of 2014. The issue has now been resolved.
12.	Coal choking in the bunker discharge chute	• Since the modification of bunker discharge, MEPL is able to manage the coal choking issues in the monsoon season. Thus, deviations due to bunker choking have drastically reduced.

7. MEPL has submitted that the aforesaid facts and circumstances establish that since MEPL's deviations occur due to reasons beyond its control and despite its best efforts, it did not amount to violations of the Regulations 6.4.6, 6.4.9 and 2.3.1.5 of the Grid Code and Regulation 7(2) of the UI Regulations.

8. SRLDC, vide its affidavit dated 22.2.2016, has submitted that after analyzing the investigation report submitted by SRPC, the following is observed:

(a) In the report, two part tariff with weightage average fixed charges (Rs.2.86 / Kwh) and wt. average variable charges (Rs.2.39 / Kwh) has been considered for gain computation whereas SRLDC had considered single part

tariff of Rs.5.41 or Rs.5.79 Kwh as per the PPA entered into by MEPL. SRPC relied upon the philosophy applicable to two-part tariff stations like CGS. Whereas the generator is transacting under seller category at contracted rate in terms of the PPA (which is a single part tariff). Therefore, fixed charge consideration is not appropriate in the current context. As per SRLDC view, the difference in PPA rate received from the buyer versus the UI charge rate paid to the pool should be considered while computing the gain. Further, block-wise gain should be computed rather than aggregated charges over a period of time.

(b) For example, against the contract value of 100 MW, if the generating station schedules for 90 MW, then the generating station gets paid for 90 MW only on single part tariff PPA rate and not fixed charges for 100MW and variable charges for 90 MW. Therefore, when the machine has any technical limitations, over declaration/schedule by the generating station will benefit the additional fixed charges as well as differential cost of variable cost and UI charges. In addition, it may relieve MEPL from the implications of penalty charges for not meeting the minimum contracted energy.

(c) In fact, splitting and comparing variable charges with UI rate should be valid for cross checking on the over injection side which is not in the present case.

(d) Details of the single part rate contract of MEPL with PTC/ APCPDPCL are as under:

S. No.	Date	Quantum (MW)	Tariff at delivery point excluding trading margin	Penalty

1	1.9.2012 to 30.5.2013	133.5	5.41/kwh	Rs. 1/kwh for quantum shortfall of 80%
2	31.5.2013 to 29.5.2014	100	5.79/kwh	20% of tariff for quantum shortfall of 85%

9. In response to investigation report of SRPC, SRLDC has submitted as under:

(a) The reference frequency corresponding to PPA rate of Rs 5.79/ unit or Rs 5.41/unit (single part tariff) corresponds to 49.72 Hz. SRPC investigation report clearly indicate that 90% of the time frequency was between 49.72 Hz to 50.16 Hz and average penalty UI rate is less than PPA Rates. Therefore, it could have been a case of gaming for recovering his fixed charges and avoiding penal charges by scheduling more.

(b) In real time as well as through various offline letters and meetings, the issue of under-injection has been taken up and the relevant records have already been placed in the petition. According to MEPL, main reasons for under-injection are various technical reasons, coal quality and training, etc. which clearly indicate that there was ample opportunity for revising the schedules as per the prevailing STOA/MTOA regulations with proper planning.

(c) The analysis needs to be looked into the block-wise and continuous duration on single instances rather aggregating for an entire year. The averaging over a year's time may alter the actual analysis and correct interpretation may not come out.

(d) The Commission in the order dated 13.10.2015 observed that MEPL was selling power through MTOA from January, 2013 to May, 2013 and only

on certain occasions, MEPL requested to revise schedule on account of problems in plant operation.

(e) The cause/cost of tripping is not relevant to the scope of the subject investigation.

10. MEPL, vide its affidavit dated 9.3.2016, has submitted as under:

(a) SRPC conclusion that there was no intentional mis-declaration of declared capacity by MEPL and MEPL did not make commercial gain by its failure to adhere to the dispatch schedule is correct and based on a sound appreciation of the data.

(b) As per the definition of gaming in the UI Regulations, it is necessary to prove intentional mis-declaration of declared capacity, etc. an merely showing the potential for a commercial gain is not sufficient to establish gaming. There is no evidence that MEPL has intentionally mis-declared its declared capacity at any time and injection data be lie any intentional mis-declaration by MEPL.

(c) It is undisputed that MEPL under-injected in excess of 125 of the scheduled injection in 1,983 time block out of 35,040 (the total number of time blocks in the relevant period, i.e a deviation of -5.6% from the schedule.

(d) As per the SRPC report, the net under-injection by MEPL during the period in question was 94.05 MUs, i.e -7.9% short of the total energy scheduled by MEPL.

(e) SRLDC`s allegation of gaming is based on an ex-post facto analysis of the injection data and the provisions of the PPAs. It is not possible for a

generator to know in advance what the exact frequency profile is in a particular time block. Therefore, when an instance of under-injection occurs, MEPL could not have known what the UI charges payable for the alleged under-injection.

(f) MEPL stood to make no commercial gain whatsoever from not adhering to the dispatch schedule. In this regard, as is borne out the SRPC report, SRLDC `s assessment of the commercial gain that MEPL allegedly got is plainly erroneous. SRLDC`s calculation of MEPL`s commercial gain is grossly exaggerated because it has considered only the tariff under the PPAs, and failed to take into consideration the fact that MEPL carried out a significant number of transactions on the Power Exchange at a much lower tariff than under the PPAs. On the other hand, SRPC considers the weighted average tariff under all of MEPL`s offtake arrangements, which is clearly the correct method to assess any commercial gain.

Analysis and Decision:

11. We have considered the submissions of the parties and perused the documents available on record. The following issues arise for our consideration:

(a) Whether MEPL was involved in gaming during the period from 1.1.2013 to 31.12.2013 in terms of Regulation 6(6) of the UI Regulations?

(b) Whether MEPL is liable to refund the money earned by it on account of under-injection?

(c) Whether penalty should be imposed on MEPL under Section 142 of the Act for violation of the provisions of the Grid Code and UI Regulations?

The above issues have been dealt with as under:

Issue No. 1: Whether MEPL was involved in gaming during the period from 1.1.2013 to 31.12.2013 in terms of Regulation 6(6) of UI Regulations?

12. Member-Secretary, SRPC vide order dated 13.10.2015, was directed to investigate into the incidence of gaming by MEPL for the period from 1.1.2013 to 31.12.2013 in terms of Regulation 6 (6) of the UI Regulations and submit its report in this regard. SRPC in its report dated 27.11.2015 has submitted as under:

(a) The generator may tend to under inject in case the penalty paid under UI mechanism is less than its variable cost and the generator needs to under inject at frequency above 49.96 Hz and over inject below 49.94 Hz to derive commercial gains. However, the generator has also under injected 48.411 MUs when grid frequency was below 49.94 Hz. It cannot be inferred that the generator has intentionally under generated in real time basis to save fuel costs and pay UI rates since for 51.34% of time when the frequency rates were more than variable cost, the generator has under injected 48.411 MU.

(b) There were 40 and 37 nos. of trippings of Unit 1 and Unit 2 respectively during 1.1.2013 to 31.12.2013. Since, unit(s) was not in a position to generate the power, 68.940 MU of energy was under injected and schedule was restored after declared expected time in synchronization of the unit.

(c) As per the provisions of the Grid Code, any generator is constrained to assess estimated time of restoration of the unit while submitting the request of revision of schedule. However, in real time, the estimated time of restoration may not be very accurate since it is based on a very preliminary assessment. If the generator had intentionally tripped, it would have done so only to save the fuel cost since all other costs are incidental and no saving could have been made through intentionally tripping.

(d) Gaming cannot be established conclusively as major quantum of under-injection due to constraint in accurate assessment of the estimated time of restoration of the unit after tripping.

13. MEPL has submitted that the Commission's order dated 13.10.2015 is based on the *prima facie* view that MEPL is guilty of grid indiscipline and has violated the provisions of Regulations 6.4.9 and 2.3.1.5 of the Grid Code and Regulation 7(2) of the UI Regulations as MEPL's actual injection consistently deviated from its injection schedule owing to under-injection and over-injection by it. MEPL has contended that its deviations from injection schedule were not the result of acts of indiscipline by MEPL and deviations were due to various technical, operational and regulatory constraints, which were beyond its control and occurred despite its best efforts.

14. The petitioner, vide its affidavit dated 22.2.2016, has submitted as under:

(a) SRPC in its report has considered two part tariff with wt. average fixed charges (Rs.2.86/kwh) and wt. average variable charges (Rs.2.39/kwh) for gain computation whereas the petitioner had considered single part tariff of Rs.5.41/kwh or Rs.5.79/kwh as per the PPA executed by MEPL to calculate economic gain by MEPL.

(b) SRPC has relied upon the philosophy applicable to two-part tariff whereas MEPL is transacting under single part tariff.

(c) Fixed charge is not appropriate in the current context and the difference in PPA rate received from the buyer versus the UI charge rate paid to the pool are to be considered while computing gain.

(d) Block-wise gain is to be computed rather than aggregated charges over a period of time.

(e) When a machine has any technical limitations, over declaration/schedule by the generating station will benefit the additional fixed charges as well as differential cost of variable cost and UI charges and it may relieve MEPL from the implications of penalty for not meeting the minimum contracted energy.

(f) The reference frequency corresponding to PPA rate of Rs 5.79/unit or Rs 5.41/unit (single part tariff) corresponds to 49.72Hz and the SRPC investigation report clearly indicates that 90% of the time frequency was between 49.72Hz to 50.16Hz and average penalty UI rate was less than the PPA rates. Therefore, it could have been a case of gaming for recovering his fixed charges and avoiding penal charges by scheduling more.

15. We have considered the submissions of the petitioner, SRPC and MEPL. Regulations 6.4.9 and 2.3.15 of the Grid Code provides as under:

> "6.4.9 The ISGS, other generating stations and sellers shall be responsible for power generation/power injection generally according to the daily schedules advised to them by the RLDC/SLDC on the basis of the contracts/ requisitions received from the SLDCs/buyers/Power Exchanges.
>
> 2.3.1.5 Every licensee, generating company, generating station, substation and any other person connected with the operation of the power system shall comply with the directions issued by the Regional Load Despatch Centers."

Regulations 2 (ee) of UI Regulations defines gaming as under:

> "2(ee) gaming in relation to these regulations, shall mean an intentional mis-declaration of declared capacity by any generating Station or seller in order to make an undue commercial gain through Unscheduled Interchange charges."

16. SRLDC has submitted that SRPC investigation report clearly indicates that 90% of the time, frequency was between 49.72 Hz to 50.16 Hz and average penalty UI rate was less than the PPA rates. Therefore, it could have been a case of gaming for recovering his fixed charges and avoiding penal charges by scheduling more. MEPL has submitted that there is no evidence that MEPL has intentionally mis-declared its declared capacity at any time and SRPC in its report found that the most part of MEPL`s under-injection (-73.3%) took place during the events of tripping. MEPL has submitted that MEPL revised its schedule when it was possible for it to do so, for instance, when either of its units had tripped, and in respect of MTOA transactions when the regulations allowed greater leeway for the revision of schedule.

17. According to SRPC, MEPL has under-injected at frequency below 49.94 Hz. However, it cannot be inferred that MEPL has intentionally under generated in real time basis to save fuel costs and pay UI rates since for 51.34% of time when the frequency rates were more than variable cost, MEPL had under-injected 48.411 MUs. SRPC has submitted that there were 40 and 37 nos. of trippings of unit-I and unit-II respectively during the period 1.1.2013 to 31.12.2013. Since unit(s) was not in a position to generate, 68.940 MUs were injected and schedule was restored after declared expected time of synchronization of the unit. SRPC has submitted that since the major quantum of under-injection was due to constraints in accurate assessment of estimated time of restoration of the unit after tripping, gaming cannot be established conclusively. We are in agreement with the submissions of SRPC. Accordingly, we are of the view that gaming cannot be established against MEPL in the instant case.

Issue No. 2: Whether MEPL is liable to refund the money earned by it on account of under-injection?

18. MEPL has submitted that deviations by MEPL are significantly fewer than submitted by SRLDC as there is a mismatch between the under-injection data provided by SRLDC and the actual data maintained by MEPL. MEPL has submitted that SRLDC's computation of economic gain is erroneous. SRLDC has contended that MEPL has a net gain of Rs. 31.97 crore and MEPL avoided a penalty of Rs. 7.3 crore under its PPAs by under-injection. In arriving at the aforesaid estimates, SRLDC appears to have considered the rate of sale as per the PPAs to calculate MEPL's earnings. MEPL has submitted that SRLDC has failed to consider that a significant number of transactions were carried out by MEPL on the Power Exchange at a much lower tariff than under the PPAs which effectively results in different weighted average rate for each time-block of the corresponding period. MEPL has submitted that SRLDC appears to have included the injection of infirm power during synchronization and commissioning of unit-2 of MEPL's power plant as part of its computation of MEPL's over-injection. According to MEPL, the net economic gain made by it on account of its deviations may be measured by finding the difference between the amounts which it would have saved despite the said deviations which is only the cost of the coal that was not used by MEPL on account of actual generation being less than the schedule. MEPL has submitted that the fixed cost associated with the plant is bound to be incurred irrespective of whether the plant generates at full load or part load and whenever the plant trips, there are additional costs required to be incurred such as for additional bed material and oil firing to stabilize the flame after cold starts before firing the coal in boiler shaft. MEPL has submitted that such costs must be subtracted in order to compute the effective economic gain by a power plant and the true estimate of the economic gain made by MEPL in the instant case can be arrived

at only after factoring the fixed costs incurred, in the aforesaid manner. MEPL has submitted that it has a net gain of Rs. 0.29 crore.

19. SRPC in its report has submitted that the total UI penalty paid by the generator for under-injection was Rs.26,72,44,874 and the only saving made by the generator could have been savings in fuel cost. However, considering the variable cost of Rs.2.39/unit, the cost saving in fuel works out to be around Rs.1,01,63,184. According to SRPC, a generator may tend to under-inject when the liability of penalty under UI mechanism is less than its variable cost and to derive commercial gain through under injection, the generator needs to under-inject at frequency above 49.96 Hz and over inject at frequency below 49.94 Hz. The generator had under injected 48.411 MUs when grid frequency was below 49.94 Hz. SRPC has submitted that a commercial gain of about Rs.1,01,63,184 may have accrued to the generator on account of fuel saving.

20. We have considered the submissions of the petitioner and MEPL. Regulation 7 (2) of the UI Regulations provides as under:

> "7.(2) The under-injection of electricity from the schedule by a generating station or by a seller during a time-block shall not exceed 12% of the scheduled injection of such generating station or seller when frequency is below 49.8 Hz, and 3% on daily aggregate basis."

21. On perusal of the investigation report submitted by SRPC it emerges that SRPC, while calculating the commercial gains made by MEPL, has considered two part tariff i.e. variable cost and energy cost whereas sale price of power of MEPL was as per the PPA i.e. Rs. 5.41 per kWh up to 30.5.2013 and Rs. 5.79 per kWh for subsequent period. We agree with the methodology of calculation by SRPC considering two part tariff as the fixed costs associated with the plant are bound to be

incurred irrespective of whether the plant is running at full load or part load. Therefore, we are of the view that fixed cost of the plant should not be used for estimating commercial gain by MEPL. We concur with the view of SRPC that the only saving made by the generator could have been savings in fuel cost. As per the report submitted by SRPC, MEPL has saved Rs.1,01,63,184 on account of saving in the cost of fuel by under-injection under UI Regulations, MEPL itself has admitted that it has a net gain of Rs. 0.29 crore on account of the non-compliance with the provisions of Regulation 7 (2) of the UI Regulations. Accordingly, we direct MEPL to deposit Rs.1,01,63,184/- in Deviation Funds Account within a month from the issue of the order

Issue No. 3: Whether penalty should be imposed on MEPL under Section 142 of Act for violation of the provisions of the Grid Code and UI Regulations?

22. In our order dated 13.10.2015, we had observed that MEPL through consistent under-injection had violated the provisions of Regulations 6.4.6, 6.4.9 and 2.3.1.5 of the Grid Code and Regulation 7.2 of the UI Regulations. We further observed that the arguments of MEPL that its O&M staff was not well trained and there was problem in stabilization of the units, cannot be accepted as the justification for violation of the provisions of the regulations and jeopardizing the grid security.

23. MEPL has submitted that it is a fit case for the Commission to exercise its power under Regulation 12 of the UI Regulations and Regulation 7 (4) of the Grid Code in favour of MEPL. MEPL has submitted that deviation by MEPL's power plant was unintentional, beyond its control and occurred despite its best efforts as the deviation was caused due to persistent technical and operational problems and regulatory constraints faced by MEPL. MEPL has further submitted detailed

explanations of the technical, operational and regulatory challenges being faced by it which led to the deviations, to SRLDC in contemporaneous meetings to the Commission in the instant proceedings. MEPL has submitted that violations were inadvertent and unintentional and it did not make any significant economic gain by violating any of the provisions of the UI Regulations and the Grid Code.

24. The petitioner has submitted that the issue of under-injection by MEPL was taken up with MEPL in real time as well as through various offline letters and meetings and MEPL was granted ample opportunities for revising its schedules as per the prevailing STOA/MTOA regulations with proper planning in view of various technical reasons, coal quality, training, etc. The petitioner has submitted that MEPL was selling power under MTOA from January, 2013 to May, 2013 and only on a few occasions, it had requested to revise schedule on account of problems in plant operation. These facts have not been contradicted by MEPL. The Commission in order dated 13.10.2015 after detailed examination had also observed as under:

> "MEPL was selling power through MTOA from January 2013 to May 2013. It is noted that during this period, MEP through e-mail had requested SRLDC on a few occasions to revise schedule on account of problems in plant operation which were carried out by SRLDC. However, this practice was not followed by MEPL on regular basis leading to under-injection of power. It is further noticed that MEPL was selling power through STOA from June 2013 and was regularly under-injecting the power into the grid whereas the buyers, namely the distribution companies of Andhra Pradesh, were drawing power as per their schedule. The under-injection by MEPL was impacting the follow in S1-S2, as APTRANSCO continued to draw power as per schedule."

25. Section 28 of the Electricity Act, 2003 provides as under:

> **"28. Functions of Regional Load Despatch Centre: ---** (1) The Regional Load Despatch Centre shall be the apex body to ensure integrated operation of the power system in the concerned region.
>
> (2) The Regional Load Despatch Centre shall comply with such principles, guidelines and methodologies in respect of the wheeling and optimum

scheduling and despatch of electricity as the Central Commission may specify in the Grid Code.

(3) The Regional Load Despatch Centre shall –

(a) be responsible for optimum scheduling and despatch of electricity within the region, in accordance with the contracts entered into with the licensees or the generating companies operating in the region;

(b) monitor grid operations;
(c) keep accounts of quantity of electricity transmitted through the regional grid;

(d) exercise supervision and control over the inter-State transmission system; and

(e) be responsible for carrying out real time operations for grid control and despatch of electricity within the region through secure and economic operation of the regional grid in accordance with the Grid Standards and the Grid Code.

(4) The Regional Load Despatch Centre may levy and collect such fee and charges from the generating companies or licensees engaged in inter-State transmission of electricity as may be specified by the Central Commission."

Further, Regulation 3.1.5 of the Grid Code provides as under:

"3.1.5. Every licensee, generating company, generating station, sub-station and any other person connected with the operation of the power system shall comply with the directions issued by the Regional Load Despatch Centers."

26. MEPL itself has admitted that violations of the regulations have taken place. MEPL has submitted that such violations are inadvertent and unintentional. MEPL has submitted that initially its O&M staff was not well trained and there was problem in stabilization of the units and after MEPL has undertaken several remedial measures to resolve operational and technical constraint, the units have been stabilized. The petitioner has submitted that during the special meetings Member-Secretary, SRPC suggested certain proactive suggestions to streamline the technical difficulties. However, MEPL continued the trend of under-injection beyond the specified limit of UI

Regulations which has impact in system security. We are of the view that MEPL should have taken these steps at the initial stage to resolve operational and technical constraints or should have taken complete shutdown till the issue of stabilization was resolved. Continuing with the violation of the provisions of the Grid Code on the ground that its O&M staff was not well trained cannot mitigate the violation of the regulations by MEPL. MEPL should have brought trained O&M staff and should have followed the best industrial practices in order to ensure compliance of the regulations and in the interest of system security.

27. As regards the contention of MEPL that the violations were unintentional, we are of the view that presence of intention is not a criteria for initiation of proceedings and imposition of penalty under section 142 of the Electricity Act, 2003. Appellate Tribunal for Electricity in its judgment dated 31.7.2009 in Appeal No. 53 of 2009 has observed as under:

> "24. In the light of the above facts, let us now come to the question as to whether the Commission can impose penalty whenever there is a contravention under Section 142 of the Act in the absence of the *mens rea*. *Mens rea* in the matter of violation means the criminal intent to violate i.e. deliberate intention to violate or dishonest intention to violate. As per Section 142 of the Act, the Commission, if it is satisfied that any person has violated the direction issued by it, shall give opportunity by seeking for explanation from that person regarding the said violation through show cause notice and by giving personal hearing. In spite of the explanation, if the Commission takes the view that the explanation is not satisfactory and forms a definite opinion that the contravention has been committed, it may impose the penalty. Thus, it is evident that the language in Section 142 of the Act does not indicate the need to establish the presence of dishonest intent namely *mens rea* to commit that contravention or violation as in the prosecution of an offence in the criminal proceedings. *Mens rea* namely the deliberate, dishonest and wanton violation is one thing. The violation due to lack of diligence and lack of bona fide is entirely a different thing. **Therefore, *mens rea* in these cases is immaterial as this involves civil liability. It is enough to establish the contravention and there need not be the criminal intent or dishonest intent to commit it. At the same time, we should not lose sight of the ground realities**."

28. In the present case, despite the constant feedback by SRLDC and discussion in the SRPC forum, MEP did not improve and consistently failed to estimate the time of restoration of the units after tripping and continued to deviate from schedule. In doing so, MEPL consistently violated the provisions of the Grid Code and UI Regulations which has affected system security. In our view, the charges against the MEPL for violations of the provisions of the Grid Code and UI Regulations are conclusively proved and there are no mitigating circumstances in favour of the petitioner. Accordingly, we impose penalty of Rs. one lakh on MEPL under Section 142 of the Act for non-compliance of provisions of the Grid Code and UI Regulations. MEPL is directed to pay penalty within one month from the issue of the order.

29. The petition is disposed of with the above.

Sd/-	sd/-	sd/-	sd/-
(Dr. M.K.Iyer)	**(A.S. Bakshi)**	**(A. K. Singhal)**	**(Gireesh B. Pradhan)**
Member	**Member**	**Member**	**Chairperson**