

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 128/MP/2014

Coram

Shri Gireesh B.Pradhan, Chairperson

Shri M.Deena Dayalan, Member

Shri A.K.Singhal, Member

Date of Hearing: 08.07.2014

Date of Order: 31.07.2014

In the matter of

Petition seeking permission to allow injection of infirm power for testing including full load testing upto declaration of commercial operation of Units 51, 52 and 53 of DGEN Mega Power Project.

And in the matter of

Torrent Energy Ltd,
Torrent House, Off Ashram Road,
Near Income Tax Circle,
Ahmedabad-380009

..... **Petitioner**

Vs

1. Western Regional Load Despatch Centre
F-3, MIDC Area,
Marol, Andheri (East)
Mumbai-400093

2. Western Regional Power Committee
F-3, MIDC Area,
Marol, Opp, SEEPZ, Central Road
Andheri (East), Mumbai-400093

3. Torrent Power Limited,
Electricity House, Lal Darwaja,
Ahmedabad-380001

4. Torrent Power Limited,
Torrent House, Station Road,
Surat-3895003

5. PTC India Ltd
2nd Floor, NBCC Towers,
Bhikaji Cama Place
New Delhi-110006

.....**Respondents**



Parties present:

1. Shri A.K.Ghosh, TEL
2. Shri Vinod Khanna, TEL
3. Shri M.H.Kshatriya, TEL

ORDER

This petition has been filed by the petitioner, Torrent Energy Ltd (TEL), seeking permission of the Commission for injection of infirm power in the grid during testing including full load testing beyond the period of 6 months from the date of first synchronization up to declaration of commercial operation of the Units 51, 52 and 53 of DGEN Mega Power Project (1196.85 MW) (3 x 398.95 MW) (hereinafter referred to as 'the project') in terms of Clause 7 of Regulation 8 of the Central Electricity Regulatory Commission (Grant of Connectivity, Long Term Access and Medium Term Open Access in inter-State Transmission and related matters) Regulations, 2009, ('Connectivity Regulations') as amended from time to time.

2. The petitioner is a Special Purpose Vehicle (SPV) company promoted by Torrent Power Limited to generate and supply electricity including distribution of power at Dahej Special Economic Zone, as co-developer of the Dahej Special Economic Zone (SEZ). The petitioner is executing the 1196.85 MW (3x398.95 MW) (3 synonymous Power blocks named as Unit 51, 52 and 53) gas based project at Dahej Special Economic Zone (DSEZ) area, in the State of Gujarat. The units of the Power block namely 51, 52 and 53 are under testing including full load testing before its date of commercial operation (COD) and consequently injection of infirm power in the grid. Accordingly, the petitioner has sought extension of the period of testing including the full load testing and consequent injection of infirm power by the units beyond six months in terms of Regulation 8 of the Connectivity Regulations.

3. Power Grid Corporation of India Limited, the Central Transmission utility has granted long term open access for the quantum of 1200 MW on 5.8.2011 for the project, for which the beneficiaries/target region have

been identified as (a) 400 MW to TPL-Ahmedabad and others (b) 400 MW for Western Region (c) 400 MW for Northern Region.

Submissions of the Petitioner

4. The petitioner has submitted that necessary grant of connectivity to the grid for injection of infirm power has been duly approved by the Respondent No1.WRLDC. It has also submitted that the Units 51, 52 & 53 of the project are injecting infirm power into the grid and the said units are under testing including full load testing on and from the date of first synchronization, which are as under:

Units	Date of first synchronization
51	20.11.2013
52	29.11.2013
53	13.12.2013

5. All three units are under testing phase including full load testing before COD since synchronization and consequently injection of infirm power is being done. Accordingly, this petition has been filed for extension of the period of testing including the full load testing and injection of infirm power beyond the period allowed by the Commission vide order dated 23.5.2014 in Petition No. 61/MP/2014.

6. The Commission by its order dated 23.5.2014 in Petition no. 61/MP/2014 had allowed injection of infirm power from the units of the project for testing including full load testing till 31.7.2014 or upto the declaration of Commercial operation of the respective units, whichever was earlier. However, the petitioner has submitted that the ongoing commissioning and testing activities including the full load testing of the said three units as envisaged earlier at the time of submission of the earlier petition are further running behind schedule, and there is further delay in the commissioning and testing including full load testing. The various technical snags faced by the petitioner during testing including full load testing upto COD of the said units of the project are as under:

- (a) High combustion chamber acceleration in Gas Turbine observed during cold gas operation. M/s Siemens, the EPC Contractor, is required to modify Burners in all the three Gas Turbines to resolve an issue of high Combustion chamber acceleration. The complete job of Burner modification will take about 10 days per unit.

(b) High Hydrogen leakage in Unit 52 Generator. M/s Siemens has opened the generator for rectification of cause of Hydrogen leakage and the job is currently under progress. The total duration of above rectification work will be around 3 to 4 weeks.

(c) Some Condenser Tubes of Unit 53 were found buckled. M/s Siemens, the EPC contractor, is currently identifying the cause and planning the rectification work. The total duration of shutdown to attend condenser tubes would be around 3 to 4 weeks.

7. The petitioner, in continuation to the submissions made in para 21 of Petition No. 61/MP12014 and the additional submissions dated 19.4.2014 made thereunder, has submitted the current status of modification of technical snags covering (a) High combustion Chamber Acceleration in Turbine (b) High Hydrogen leakage in Unit 52 Generator and (c) buckled Problem in Condenser Tubes of Unit 53 as below:

(a) In order to resolve Hydrogen leakage issue in Unit-52, the generator rotor was machined at the site. For precision machining, equipments and skilled technical staff were mobilized from Germany. As the shaft diameter got reduced after machining, new Hydrogen seal was arranged from the Original Equipment Manufacturer (OEM). In view of the long lead time for new hydrogen seal and requirement of specialist machining crew and subsequent leak test on the generator, the completion of the job is expected to take more than four weeks as envisaged earlier and is expected to be completed by 20th June, 2014.

(b) As regards Condenser Tube buckling in Unit-53, M/s Siemens is required to replace all the dummy tubes of the Unit 53 Condenser. Currently the work is under progress and is expected to be completed by 30th June, 2014.

8. In addition to the ongoing works in progress, as above, the petitioner has submitted that it has experienced various other additional technical issues which would require additional time beyond 31.7.2014.

These are as under:

(a) In Water Treatment and DM Plant control system, some issues are being encountered. To resolve these, control logic modification and tuning is required. Also, some equipment needs to be replaced to support the control philosophy. It is expected that it will take around 50 days to resolve all the issues and is expected to be completed by 10th August 2014.

(b) In Sulphuric dosing systems, some leakages have been experienced during commissioning. To resolve this issue, M/s Siemens have ordered new piping material and some equipment. Since the delivery time of such equipments is high, it will take about two months to resolve all issues in Sulphuric Dosing system and is expected to be completed by 10th August, 2014.

(c) During commissioning, SF6 leakage was noticed in some of the EMVTs. In order to carry out root cause analysis and inspect/repair, all EMVT of three units were sent to factory. The job took about 10 days for each unit and has been completed on 15th June, 2014.

(d) Internal coating of main cooling water pipe lines was found damaged in all the three Units. The coating repair work of long cooling water pipes is very laborious job. For each unit, the overall

completion period is 2 to 3 weeks to complete the job and is scheduled to be completed by 30th June 2014.

- (e) Based on the above constraints, the commissioning schedule has been affected. The delay due to grid restriction and other similar scenario during the period from January, 2014 to May, 2014 is summarised as under:

	January 2014	February 2014	March 2014	April 2014	May 2014	Total
Start -up not allowed	2	27	15	25	6	75
Restricted to 100-130 MW	2	18	7	11	5	43
Restricted to 200-250 MW	1	6	3	10	4	24
Instructed for shutdown	-	5	2	4	2	13
Total Restricted Event	5	56	27	50	17	155
Total Restricted Hours	29.5	299.1	153.2	178.5	75.9	736.1

9. On overall considerations of technical and non technical issues, the tentative schedule of the remaining commissioning activities to be undertaken before declaration of COD are summarized by the petitioner in the table as under:

Activities pending to be completed (as on 20.6.2014)	Number of days expected for completion (on & from 20.6.2014)
Gas Turbine Re-Tuning. Condenser Tubes Replacement in Unit-53	10
Modification in DM Plant Control & Sulphur Dosing Systems	50
Unit Characteristic Test	15
Shutdown for making unit ready for Unit Reliability Test (URT)	5
URT (including tuning, if any, GT/Combined cycle)	15
Shutdown for performance instrument installation	2
Performance Guarantee Test	3
If Performance Guarantee Test is repeated	2
Expected delay due to low system demand during monsoon	15
Total	117

10. Based on the above, the expected date of completion of the pending activities, including COD would be 15th October, 2014. Accordingly, the petitioner has prayed for grant of extension of time for injection of infirm power into the grid for the purpose of commissioning tests including full load testing up to the COD of the units or upto 15.10.2014, whichever is earlier. The petitioner has also submitted that since the delay is due to circumstances beyond the control of the petitioner and has a bearing on the capital cost of the project, the IEDC/IDC shall be attributable to the project capital cost.

11. During the hearing on 8.7.2014, the representative of the petitioner reiterated the details of the technical problems leading to delay in achieving COD of the project. The representative of the petitioner added that the units were synchronized during November, 2013/December, 2013 and the units were expected to be declared under commercial operation by the month of May,2014/June,2014. The representative clarified that due to technical snags and grid restriction, the COD could not be achieved by the said date and according to latest status of the progress of rectification work, it would not be possible to achieve commercial operation of the project by 31.7.2014. The representative of the petitioner further submitted that the rectification work would be completed by August, 2014 and thereafter one month time would be required for other tests, prior to the declaration of commercial operation of the units by 15.10.2014.

12. In compliance with the directions of the Commission to submit the detail of injection of infirm power in to the system from the date of synchronization till date, the petitioner vide its affidavit dated 9.7.2014 has submitted the statement showing injection of infirm power and duly reconciled with DSM/UI statement issued by WRPC. The statement also shows the details of injection of infirm power on daily basis on and from date of synchronization of Units upto 22nd June 2014. It is noticed from the said statement that a total of 356.323 MUs was injected by the project into the system during the above said period. The petitioner has submitted that further injection of infirm power into the system from now on up to the COD of the project shall be 300 MUs (approx).

13. The petitioner in the petition has detailed the events relating to the rejection of grant of permission for infirm power by WRLDC on daily basis during the period from January, 2014 to June 2014. It is observed that there were restricted events of 73 days involving restriction of injection of infirm power of around 162.88 MUs. During this crucial commissioning period, no commissioning activities could be carried out on account of the restriction on injection of infirm power, which has therefore lead to the delay in declaration of commercial operation of the units. The petitioner has submitted that it is in receipt of communication from WRLDC on restricted events (hours) for testing including full load testing leading to commercial operation date of the respective units. The petitioner has accordingly requested the Commission for a suitable direction to be given to

WRLDC to facilitate and allow unrestricted injection of infirm power for testing including full load testing from now on upto the COD of the project.

14. The petitioner has submitted that based on the current status, it is expected that most of the technical issues relating to the plant shall be resolved by 10.8.2014 and thereafter to be followed by all tests like unit characteristic test, reliability test, performance guarantee test etc.

15. We have considered the submission of petitioner. The Commission had directed the petitioner to submit details of injection of infirm power into the grid from the date of synchronization till date and the petitioner has submitted the details of daily injection from 20.11.2013 to 22.6.2014, without furnishing the time block-wise details. In the absence of time block-wise details, it has not been possible to ascertain the maximum capacity injected into the grid. However, from the available details, it is observed that maximum injection of 9298.87 MWh was on 19.4.2014, which translates into an average capacity of 387.45 MW against the installed capacity of 1196.85 MW. It is noticed that in other days, the injection was much lower than 9298.87 MWh. Therefore, it is not the case that the unit was injecting substantial quantum of infirm power on consistent basis. However, the petitioner has sought extension of time for injection of infirm power upto 15.10.2014 or COD of the units, whichever is earlier. As stated, the Commission vide its order dated 23.5.2014 in Petition No. 61/MP/2014 had allowed the injection of infirm power for completion of the rectification work and full load testing etc., prior to the declaration of COD, till 31.7.2014. It is observed from the submissions of petitioner, that the technical snag faced in (i) High Combustion Chamber Acceleration in Gas Turbine (ii) High Hydrogen leakage in Unit-52 Generator and (iii) Some Condenser Tubes found buckled of Unit-53 are to be completed by 30.6.2014. Also, the other new technical snags now faced in the DM Plant and Sulphuric Dosing Systems would be completed by 10.8.2014 and accordingly the petitioner should not inject infirm power till 10.8.2014 i.e. till the rectification work on DM Plant and Sulphuric Dosing systems are completed. Thereafter, the petitioner would require time for unit characteristic testing, unit reliability tests and performance guarantee testing for which a time period of 42 days has been

sought for by the petitioner and another 15 days for low system demand due to monsoon which may hamper full load testing.

16. We are of the considered view that time period of 42 days for unit characteristic testing, Unit Reliability Test and performance guarantee testing could be compressed and reduced to 10-12 days. Even if the loss of 15 days is considered on account of low system demand due to monsoon, the units, in our view, could be declared under commercial operation by 31.8.2014. However, considering some marginal time period for any unforeseen eventualities during this period, the extension of time for injection of infirm power for the said purpose could be allowed up to 15.9.2014. Considering the above, we are inclined to grant further extension of time for injection of infirm power into the grid for the purpose of commissioning tests including full load test up to the COD or 15.9.2014, whichever is earlier. The extension of time granted as above shall not automatically entitle the petitioner for IEDC/IDC for the delay in declaration of COD from the scheduled COD and the same shall be considered on merits at the time of determination of tariff of the unit/generating station.

17. The petition is disposed of in terms of the above.

Sd/-
[A.K.Singhal]
Member

sd/-
[M. Deena Dayalan]
Member

sd/-
[Gireesh B.Pradhan]
Chairperson