

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 131/MP/2014

Coram:

Shri Gireesh B. Pradhan, Chairperson

Shri M. Deena Dayalan, Member

Shri A.K. Singhal, Member

Date of Hearing: 24.7.2014

Date of Order : 19.1.2015

In the matter of

Anticipated delay in the declaration of commercial operation date (COD) of Unit-I of the 2x250 MW NLC-Thermal Power Station-II Expansion.

And

In the matter of

Seeking Commission's permission to maintain status quo for injection of infirm power under UI mechanism till declaration of COD of Unit-I or 31.3.2015 whichever is earlier.

And

In the matter of

Neyveli Lignite Corporation Limited
Neyveli house, 135, EVR Periyar road,
Kippauk, Chennai- 600010.

....Petitioner

Vs

1. The Member Secretary
Southern Regional Power Committee
29, Race Course Cross Road, Bangalore- 560009

2. Executive Director (SEF &CE)
Power Grid Corporation of India Limited,
'Saudamini', plot no. 2, sector- 29,
Near IFFCO Chowk, Gurgaon- 122001, Haryana

3. The General Manager (Commercial)
Power Grid Corporation of India Limited,
Southern Region Transmission System II,



Pragati Mahalakshmi, South Blovk (2nd and 3rd floor),
No. 62, 3rd Cross, NEI road, Industrial suburd,
Yeshwantpur, Bangalore- 560022

4. Executive Director
POSOCO, Southern Regional Load Despatch Centre,
29, Race Course Cross road, Bangalore-560009

5. The Chief Engineer (Planning)
Tamil Nadu Generation and Distribution Corporation Limited,
6th floor, eastern Wing, 144, Anna Salai, Chennai- 600002.

6. The Chief Engineer/Corporate Planning TRAC
Kerala State Electricity Board,
8th Floor, Vidyuthi Bhawanam,
Pattom, Thiruvananthpuram-695 004

7. Director (Commercial)
State Power Purchase Co ordination Committee
Power Company of Karnataka Ltd.
Kaveri Bhawan, Bangalore-560 009

8. The Superintending Engineer
Puducherry Electricity Department
137, NSC Bose Road, Puducherry-605001

9. Chief Engineer (Commercial)
A.P. Power Coordination Committee
Vidyut Soudh, Khairatabad
Hyderabad-500 082

....Respondents

Following were present:

Ms. Anushree Bardhan, Advocate, NLC
Shri R. Mohan, NLC
Shri S. Sankaran, NLC
Shri K. Nambirajan, NLC
Shri S. Gnana Prabhakaran, NLC
Ms. Jayantika Singh, POSOCO

ORDER

This petition has been filed by the petitioner, Neyveli Lignite Corporation Limited, seeking permission of the Commission for injection of infirm power into the grid during testing, commissioning and commercial operation of NLC-TPS II (Expansion) (the



generating station) till declaration of COD of Unit-1 (unit) or 31.3.2015, whichever is earlier.

2. Neyveli Lignite Corporation Limited (NLC) is in the process of establishing NLC-TPS II Expansion (2x250 MW) CFBC boiler based power plant at Neyveli, Tamil Nadu. This is the first 250 MW unit size CFBC based power plant being installed in the country. Unit of the generating station was first synchronized with the grid on 18.5.2011 with oil firing and on 27.6.2011 with lignite firing. Due to numerous teething problems encountered, COD of the generating station got delayed resulting in prolonged injection of infirm power into the grid.

3. The Commission by its order dated 20.5.2014 in Petition No. 58/MP/2014 had allowed injection of infirm power from the unit of the generating station for testing including full load testing till 30.6.2014.

4. The petitioner in the present petition, while praying for extension of time for testing and full load testing and consequent injection of infirm power, has mainly submitted as under:

(a) As per the Commission's direction, it has filed a copy of the report of M/s BHEL on the operating status of 2x220 MW Lignite Fired CFBC Boiler of the generating station. The conclusion of the report is as under:

“4.0 Conclusion:

Most of the major issues faced are attributable to the large size of the boiler which is being established for the first time in the country. It can be seen from the above that BHEL has resolved most of the issues and is also

putting all its efforts to resolve the balance issues and establish CFBC technology for 250 MW range in India.”

(b) There have been major issues relating to the Boiler for NLC-TPS-II Expansion which BHEL has been confronted with, as stated in the detailed report submitted with the petition.

(c) NLC has been actively pursuing with M/s BHEL to resolve all the issues effectively in order to enable COD of the unit of the generating station for sustained operation. In view of the problems encountered in the early stages of testing, commissioning and commercial operation, NLC has been insisting on M/s BHEL to ensure that all the parameters are properly dealt with and the performance of Boiler is satisfactorily established to avoid any issues while operating the plant.

(d) Though the unit was synchronized in time, it could not reach the rated load due to restriction on Combustor Temperature and Differential Pressure in the Upper portion of the Combustor Process Developer. In addition, it required design modification in the supporting structure of the tubes with Hanger Tubes Forged Block Assembly inside FBHE Coil Assembly to avoid damages occurring due to resonance.

(e) The injection of infirm power into the grid by NLC for testing and commissioning is for reasons beyond its control and solely with the intention to achieve the COD.

5. The petitioner has submitted that in the facts and circumstances mentioned above and as per the report given by M/S BHEL, it may require time till 31.5.2015 to carry out the testing and commissioning including injection of infirm power into the grid for such operation.

6. During the hearing on 24.7.2014, the representative of the petitioner submitted that as per BHEL's report, major issues being faced are attributable to large size of CFBC boiler which is being commissioned for the first time in the country. The representative of the petitioner further submitted that the Ministry of Coal vide its letter dated 4.7.2014 has requested Department of Heavy Industries to intervene in the matter so that the unit of the generating station may be commissioned at the earliest.

7. The petitioner, vide Record of proceeding for the hearing dated 8.8.2014, was directed to file the time line duly endorsed by BHEL giving details of rectification/ modification work to be carried out in CFBC boiler and other areas to make it ready for full load testing before declaring COD of the unit of the generating station.

8. The petitioner vide affidavit dated 6.8.2014 has filed the time line chart endorsed by BHEL. The petitioner has submitted that the following rectification/modification works have been planned for declaration of COD before 31.3.2015:

- (i) Modification/rectification in Fluidised Bed Heat Exchanger supports fixing and welding of dogbone link plates, refractory application, cold testing of modified arrangement with bed material, tuning the equipments, rectification of refractory in cyclone target zone.

(ii) Testing of sustenance at various loads of 30%, 60%, 80% and 100% with brief shutdowns for inspection and rectification.

9. The petitioner has requested that taking into account the difficulties encountered in declaring COD, NLC may be permitted to inject infirm power into the grid for testing including full load testing till 31.3.2015 or actual date of commercial operation, whichever is earlier.

Analysis and Decision

10. We have considered the prayer of the petitioner. The fourth proviso to Regulation 8 (7) 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 as amended from time to time provides as under:

"Provided that the Commission may in exceptional circumstances, allow extension of the period for inter-change of power beyond the period as prescribed in this clause, on an application made by the generating station at least two months in advance of completion of the prescribed period:

Provided further that the concerned Regional Load Despatch Centre while granting such permission shall keep the grid security in view."

11. It is observed from the report of M/s BHEL that the petitioner could not achieve COD due to multiple failures/technical problems faced during the commissioning of the unit of generating station. Most of the major issues faced are attributable to the large size of the boiler which is being established for the first time in the country. Technical issues being faced are (i) failure of refractory system in Fluidised Bed Heat Exchanger (FBHE) , (ii) air system such as PA fan bearing failure, Shifting of bed material, etc., (iii)

fuel system such as frequent jamming and lifting drag link chain feeders, Ash leakage due to failure of Non- Metallic Expansion Joints and Clinker formation at throat of Start-Up burner, etc., (iv) steam/water system viz. failure of Steam Cooled Walled Tubes due to overheating caused by water logging at the bottom of inlet headers, FBHE tube leakages, failure of back pass of hanger tubes and economizer tube leakage etc, and (iv) problem in Ash System such as difficulty in bottom ash removal through combustor Spiess valves.

12. The petitioner has submitted the details of volume of work involved in the modification/ rectification of CFBC boiler as under:

- FBHE supports, Fit up of 432 Pad plates and Fillet welding, post weld heat treatment,
- Refractory application at FBHE inlet wall, at Lower Secondary air nozzle, bed lance area,
- Removal of 108 vibration arrestors Air System,
- Hydro test, Cold testing of modified arrangement with bed material,
- Filling of bed material in combustor before boiler light up.

13. The petitioner has submitted the schedule of the commissioning activities for unit of the generating station as on 22.7.2014 to be undertaken before declaration of COD as under:

Sl. No.	Description of activities	Target date
1.	Boiler light up	31.8.2014
2.	Testing of sustenance at various loads	
2.1	30% MCR	30.9.2014

2.2	60% MCR	31.10.2014
2.3	80% MCR	By mid December 2014
2.4	100%	31.1.2015
3.	Light up and raising to full load and testing	By February 2015
4.	Trial run completion and COD	31.3.2015

14. Taking into consideration the submission of the petitioner and keeping in view the difficulties being faced by the petitioner, we allow extension of time for injection of infirm power into the grid for the commissioning tests including full load test of unit for a further period up to 31.3.2015 or actual date of commercial operation, whichever is earlier.

15. It is clarified that the extension of time as allowed in this order 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.

16. With the above, the Petition No. 131/MP/2014 is disposed of.

Sd/-
(A. K. Singhal)
Member

sd/-
(M. Deena Dayalan)
Member

sd/-
(Gireesh B. Pradhan)
Chairperson