

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 198/MP/2015

Coram:

Shri Gireesh B. Pradhan, Chairperson

Shri A.K.Singhal, Member

Shri A.S.Bakshi, Member

Dr. M.K.Iyer, Member

Date of Hearing : 28.08.2015

Date of Order : . 07.12.2015

In the matter of

Petition seeking the Commission`s permission to allow extension of the period for injection of infirm power for testing including full load testing of Unit-V (660 MW) of Barh STPP (Stage-II, 2X660 MW), beyond six months from initial synchronization.

And

In the matter of

NTPC Limited,
NTPC Bhawan, Core-7, Scope Complex,
7, Institutional Area, Lodhi Road,
New Delhi-110 003.

...Petitioner

Vs

Power System Operation Corporation Ltd.
B-9, Qutab Institutional Area,
Katwaria Sarai, New Delhi-110 016

.....Respondent

Parties present:

Shri Ajay Dua, NTPC
Shri Shyam Kumar, NTPC
Shri Umesh Ambati, POSOCO

ORDER

This petition has been filed by the petitioner, NTPC Ltd. seeking permission of the Commission for injection of infirm power into the grid during

testing including full load testing beyond the period of 6 months from the first synchronization up to the date of declaration of commercial operation of the Unit-V of Barh Super Thermal Power Station, Stage-II (660 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 has submitted that the first Unit-V (unit) of Barh Super Thermal Power Station, Stage-II (660 MW) has already been test synchronized on 1.3.2015 and the unit attained full load on 4.3.2015. The Unit was expected to be declared on commercial operation by August, 2015. However, due to multiple failure in the weld joint of Boiler tubes, Unit could not be declared under commercial operation.

3. The petitioner in this 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) There have been repetitive failure of tube weld joints of the boiler tubes. The boiler faced these tube failures even before the synchronization i.e. during safety valve floating, etc. The issue was

discussed with the OEM i.e. M/s ALSTOM and it was desired to investigate the root cause of the problem.

(b) The Boiler of Unit-V is the first super critical 660 MW boiler indigenously manufactured and supplied by BHEL in technological collaboration with ALSTOM. A wide range of alloy steels such as T12, T22, T23 and T91 have been used in manufacturing of pressure part components to meet the technical requirement of super critical boiler operating with domestic coal having high ash content.

(c) During welding of joints at site, Radiography Test (RT) and Post Weld Heat Treatment (PWHT) process, a number of problems were faced and accordingly, welding procedure/ PWHT procedures were reviewed and revised after number of discussions/ deliberations between NTPC, BHEL and ALSTOM to overcome the weld joint failures/ leakage problems. Subsequently, it was decided to re-weld the defective joints as per the revised procedures laid down by the OEM to overcome the problem of joints failures.

(d) Extensive physical survey and various tests of the weld joints were carried out to identify the defective weld joints and it was decided to carry out PWHT of about 10684 joints and to repair 110 joints as per the revised procedures set by the OEM. The repair and PWHT of joints are

still under progress due to difficult location of joints and heavy rainfall in the Barh area .

(e) All other essential systems associated such as TG and Auxiliaries, Boiler and Auxiliaries are ready for sustained and stable full load operation. However, due to the failures of weld joints, the full load operation on sustainable basis could not be achieved. The petitioner has submitted that a further period of three months for injection of infirm power is required for trial operation to stabilize the Unit of the project.

4. The petitioner has submitted that it is seeking extension of time for testing including full load testing, trial operation for *bona fide* reasons for rectification of problem with joints of Boiler tubes and not for the purpose of trading in infirm power or otherwise to derive any undue advantage. The petitioner has requested to extend the time for injection of infirm power into the grid for testing including full load testing for testing from Unit-V of the project upto 30.11.2015 or the date of commercial operation of Unit-V, whichever is earlier

5. The petition was heard on 25.8.2015. The Commission, vide Record of Proceedings for the hearing dated 25.8.2015, allowed the petitioner time till 30.11.2015 to inject infirm power from Unit-V of the project into the grid for the purpose of testing including full load testing and directed the petitioner to file the activity-wise time schedule for completion of repairing of joints, Post Weld Heat Treatment of weld joints and testing at different loads including full load testing before COD of the unit.

6. The petitioner, vide its affidavit dated 2.9.2015, has submitted the activity-wise details. The petitioner has further submitted that after the repair of Boiler weld joints, it shall carry out required on-bar activities for making the unit stable and successful trial operation of the unit to enable declaration of COD of the unit by 30.11.2015.

7. The petitioner, vide its further affidavit dated 24.11.2015, has submitted as under:

(a) After completion of the repair and PWHT of identified Boiler, joints had brought back Unit-V on bar and thereafter, completed the tuning of various auto-loops during September 2015 (17.9.2015 to 19.09.2015).

(b) In the process of unit-stabilization, the unit was operating to prove reliable operation on a sustained basis prior to conducting full load trial operation. In this regard, Unit-V has been on bar for approximately 396 hours from 17.9.2015 to 5.11.2015 and during the period, it has generated about 123 Mus and achieved instantaneous load of 704 MW.

(c) On 5.11.2015, Boiler joints of the unit were re-checked after unit-stoppage. In view of the re-appearance of the problem in some Boiler weld joints, unit operation was put on hold and matter was taken up with BHEL/Alstom (OEM) for review of the procedure to achieve reliable unit operation. After rectification of Boiler weld joints, the petitioner would be able to operate the unit at rated parameters for prolonged period at different loads.

(d) Being the first indigenously manufactured 660 MW Boiler of BHEL, the petitioner is following the procedure of re-assessing the Boiler healthiness after sustained operation and thereafter go for full load trial operation as an abundant caution.

(e) The petitioner has requested to extend the time for injection of infirm power into the grid for testing including full load testing for testing from Unit-V of the project upto 29.2.2016 instead of 30.11.2015 as prayed in the petition.

8. No reply has been filed by the respondent despite notice.

9. We have considered the submission of the petitioner. The fourth proviso to Regulation 8 (7) of the Connectivity Regulations, 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."

10. The petitioner has submitted that due to leakage in Boiler joints, COD of the unit could not be achieved. The petitioner has submitted the revised schedule for completion of works as under:

S.No	Milestones	Anticipated activity Start date	Anticipated activity completion date	Activity of Unit-V
1.	Completion of	Taken up	28.11.2015	➤ Repair and PWHT of

	Repair and PWHT of Defective Weld Joints.	immediately after unit operation/ shutdown		<ul style="list-style-type: none"> ➤ identified defective weld joints ➤ Boiler Hydro Test and repair of boiler tube leakages, if any. ➤ Other preparatory works for Boiler Light up such as flushing of boiler etc.
2.	On Bar Commissioning with injection of infirm power and Stabilization.	29.11.2015	30.11.2015	<ul style="list-style-type: none"> ➤ Boiler Light-Up and Vacuum pulling charging of steam to turbine side. ➤ Steam dumping to achieve required steam parameters for TG rolling
		30.11.2015	2.12.2015	<ul style="list-style-type: none"> ➤ Synchronization and Unit operation at 500 MW for stabilization, including HPH charging.
		3.12.2015	10.12.2015	<ul style="list-style-type: none"> ➤ Raise load for full load operation and stabilize the unit at rated parameters.
3.	Boiler inspection and checking of various system	11.12.2015	31.12.2015	<ul style="list-style-type: none"> ➤ Shut down for inspection and checking ➤ Boiler hydro to check for weld joint failures if any.
4.	Trial operation and COD declaration	1.1.2016	29.2.2016	<ul style="list-style-type: none"> ➤ 72 hrs full load successful trial operation with 7 days advance notice. ➤ Thereafter, Declaration of COD of Unit-V ➤ Note: - About one month kept for attending any unforeseen outage/ Tube leakages etc. subsequent to Unit operation at rated parameters.

11. Taking into consideration the technical problems faced by the petitioner and revised schedule for rectification of defects, we allow extension of time for injection of infirm power into the grid for commissioning tests including full load testing of the unit up to 29.2.2016 or actual date of commercial operation, whichever is earlier. However, injection of infirm power shall be allowed only after completion of

repairing/rectification of works. We expect the petitioner to make all efforts to ensure the commercial operation of unit of the project by this date. It is, however, clarified that 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 which will be decided in accordance with the relevant provisions of the tariff regulations.

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

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