Chapter-5

5 Project Monitoring and Impact Analysis

5.1 Project Monitoring System

The Company has developed IPMCS for ensuring timely completion of projects. IPMCS covers project conceptualization, proactive planning process, aggressive & visionary engineering and contracting management & meticulous monitoring mechanism.

The projects are being monitored at different levels of management, i.e., General Manager at site, Corporate Monitoring Group, Regional Executive Director, Director (Project) and Chairman & Managing Director. The actual progress vis-à-vis schedule was also discussed by the Contract Services Department in the Contract Review Meetings and Technical Coordination Meetings. Regular progress review meetings were also held at manufacturing site to assess the progress. The Project Review Team[34] (PRT) meetings were held every month at project site office and progress of projects as a whole was reviewed. It also discusses various issues causing hindrances in the progress of projects and tries to resolve them along with responsibility centers.

Besides above, the Ministry of Power also evolved a monitoring system for the capacity addition programme to ensure that the cleared projects are executed in time. Their monitoring is carried out at three broad levels viz. by Central Electricity Authority; by Power Project Monitoring Panel (PPMP); and by Ministry of Power itself.

5.2 Monitoring of Projects

5.2.1 Audit observed that PRT meetings were held regularly for all the projects. However, these meetings had no significant impact in containing delays in commissioning of projects as three out of four projects were completed with delays ranging from 9 to 33 months and ten ongoing projects[35] are also delayed by one to 45 months despite regular monitoring. In PRT meetings, the responsibility centers were identified for removing the hindrances noticed. On enquiry about the relevant records as to what action was taken by the concerned official, no information/documents were furnished by the Company. Hence, audit could not assess the effectiveness of these meetings. For example, minutes of PRT meetings identified some issues like non-mobilisation of adequate manpower, non-deployment of high capacity crane, non-supply of materials, etc. which were discussed in PRT for a few months.

The Management stated (November 2010) that all the responsibility centres had submitted the action taken report which resulted in high level reviews and alternate action by the contractors in providing the resources which had a significant impact in containing the delays.

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[34] *PRT consist participants from Engineering, Contracts, Project site and Corporate Project Monitoring Group.*

[35] *Eight Thermal Projects (Barh-I, Sipat-I, Simhadri-II, Korba-III, Farakka-III, Bongaigaon, Vallur JV and Nabinagar JV) and two Hydro Projects (Koldam and Loharinagpala).*

We do not agree with the Management as we had called for monthly action taken reports for all the 21 ongoing/ completed projects for the period April 2007 to October 2010 (730 reports). The Management, however, provided only 25 reports in respect of 10 projects. Thus, in the absence of full details we could not assess the impact of action taken by the responsibility centers.

5.2.2 Civil work contracts were not executed with desired results mainly due to poor deployment of construction equipment (refer Para No. 4.2.1.1 to 4.2.1.11) especially Piling Rigs. From the review of minutes of PRT meetings it was observed that contractors did not import construction equipment as per undertaking in the bid, resulting in poor deployment of equipment at project site. This shows that monitoring mechanism could not speed up the progress of the projects by enforcing commitment given by the contractors in their bids as regard deployment of construction equipment specified for respective projects.

5.2.3 Various activities carried out for construction of thermal power projects inter-alia includes ten[36] important activities related to boiler and turbine. These activities are required to be carried out in such a manner that the project may be synchronised in time.

Analysis of these ten important activities related to main plant ***(Annexure-XI)*** revealed that the monitoring mechanism of the Company could not ensure that such activities were carried out in timely manner in respect of completed/ongoing projects as there were delay ranging between one to 55 months in commencement of boiler erection, one to 20 months for boiler drum lifting, two to 54 months for boiler hydraulic test, one to 52 months for boiler light up, two to 51 months for steam blowing completion. Similarly, there were delays ranging between two to 33 months in commencement of turbine erection, one to 39 months for TG box up, one to 43 months for oil flushing completion, three to 51 months for TG Rolling and, one to 51 months for synchronisation. It was also observed that though the Company managed to complete first 2-3 activities as per schedule, however, thereafter remaining activities were delayed due to various reasons discussed in Chapter-IV.

5.2.4 The monitoring mechanism of the Company failed in coordinating with main plant contractor to ensure timely supply of critical equipment in case of thermal projects. It was also observed that though the Company claimed that the delay was on the part of vendor but ground reality is that NTPC was at fault due to late handing over of site to vendor.

The Management stated (November 2010) that if the projects were delayed, efforts were made to find out the alternate action regarding offloading of work when the contractor was not performing and to provide additional support from NTPC side like provision of crane, material, etc.

The fact remains that the action taken by the Management could not ensure timely completion of the projects.

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[36] ***Boiler:*** *Commencement of SG erection, Boiler Drum Lifting, Boiler Hydraulic Test, Boiler Light Up and Steam Blowing completion.*
Turbine: *Commencement of TG erection, TG Box Up, Oil Flushing completion, TG Rolling and Synchronisation*

5.2.5 Ministry of Power reviewed all the projects under capacity addition programme and issued necessary directions for timely completion of projects from time to time (June 2007 to June 2010). Some of the suggestions given by Secretary (Power) in respect of each projects is enclosed in ***Annexure-XII***. Despite this, some of the major issues like contractual disputes, delay in supply of equipments by vendor, delay in finalisation of erection agency by vendor, slow progress of work by civil work contractor, fuel supply issues, etc. could not be resolved timely.

Therefore, even after monitoring at various levels, delays in completion could not be avoided.

5.3 Impact analysis

Audit made analysis to assess the impact of delayed project execution both on the Company and economy at large which are discussed below:

5.3.1 Availability of affordable power is of critical importance for development of national economy. Therefore, it is important for the country to bridge the gap between the supply and the demand of power to achieve higher rates of economic growth on a sustained basis. NTPC, being the leading power generating company in India, had drawn up an ambitious programme for addition of 22,430 MW upto 2012. However, the Company added only 4,220 MW during the last three and half years and expects to achieve another 5,000 MW by the end of March 2012. The slow progress of capacity addition programme may deprive benefits directly or indirectly to the people of the country.

5.3.2 Due to delay in realising capacity addition, the Company would lose the opportunity of generating 1,69,440 million units[37] involving ₹ 38,463 crore in revenue (including return on equity of ₹ 4,340 crore) over the period of delay from scheduled to actual/ anticipated date of commercial operation.

5.3.3 As per Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009, applicable for the period 2009-2014, an additional Return on Equity at the rate of 0.5 *per cent* is allowed if projects are commissioned on or after 1st April 2009 within the timeline specified in Appendix-II of the CERC's regulations. Therefore, the Company has forgone additional return on equity of ₹ 2,056 crore due to non-completion of projects within stipulated timeline.

5.4 Conclusion

The continuous monitoring of the projects through the monitoring mechanism established by the Company as well as monitoring by the Ministry failed to accelerate the progress of the projects under the capacity addition programme to be achieved by March 2012 and delays remained major constraint for the Company in achieving the target. Due to delays, the Company will lose the opportunity of generating at least 1,69,440 MUs and earning a revenue of ₹ 40,519 crore.

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[37] *Generation loss for the period of delay in completion of projects based on the average plant load factor of the Company for the last five years ended March 2010. Out of this 33,142 million units involving revenue of ₹7,523 crore has already been lost in respect of four projects actually completed and 38,669 million units involving revenue of ₹8,778 crore on 10 ongoing projects up to August 2010.*