CHAPTER - 6

Project Implementation and Execution

Award of contract involves contract packaging, cost estimation, finalization of qualifying requirements (QR) and bidding documents, calling of tenders, evaluation of bids and finalization of award.

Examination of each of the above stages in respect of 424 contracts pertaining to 20 projects selected for audit awarded at corporate office and 60 contracts[56] (relating to construction of colony, boundary wall, site levelling, *etc*.) awarded by Regional offices in connection with execution of above 20 projects, revealed areas for improvement as follows:

6.1 Cost estimation

Cost estimation is a vital and important step ensuring reasonableness of cost to complete a project or acquire a service. This serves as a benchmark for establishing the reasonableness of rates quoted by bidders. Therefore, it is important that cost estimate is worked out in a realistic and objective manner keeping in view the prevailing market rates, last purchase prices, economic indices for the raw material/labour, other input costs, IEEMA[57] formula and assessment based on intrinsic value, *etc*.

PGCIL prepares cost estimates using Schedule of Rates (SOR) for different items, based on unit rates of three latest contracts. SOR is reviewed every quarter and in the case of conductor and tower packages, material price indices are also considered.

Examination in audit revealed that at the time of approval of WPPP (September 2001), the Cost Estimate Manual was in the 'draft' stage and WPPP mentioned that 'NIT' cost estimate would be prepared by Cost Engineering Department as per the guidelines provided in the Cost Estimate Manual which was under approval of the Management at that time. The Cost Estimate Manual has, however, not been approved by Board of PGCIL (March 2014).

Further, in 212 out of 424 contracts pertaining to 20 selected projects reviewed in audit, award values compared with estimated costs varied ranging from (-) 70 *per cent* to (+) 74 *per cent*. In 55 contracts, award value was more than 10 *per cent* (ranging from 11 *per cent* to 74 *per cent*) of the estimated cost.

MOP stated (March 2014) that (i) though formal approval to Cost Estimate Manual was not taken at that time, it was subsequently approved in August 2013. Meanwhile, improvements in the methodology of preparing cost estimate had been recorded in the Schedule of Rates (SOR) which was being prepared according to the advice of Chief Technical Examiner (CTE) of Central Vigilance Commission and were approved by Competent Authority at regular intervals; (ii) in order to capture the latest market trend, further improvement is done in costing process *viz.* frequency of preparation of SOR is now done on bi-monthly instead of quarterly basis, cost of conductor and tower steel parts, reinforcement steel and concreting is worked

[56] ***NR I: 3, NR II:7, WR I: 16, WR II: 11, SR I: 6. SR II: 5, ER I: 5, ER II: 1, NER: 6.***

[57] ***Indian Electrical and Electronic Manufacturers Association***

out on the basis of material indices published by RBI/IPC/IEEMA *etc*. so as to capture cost of items in line with material price trend.

The fact however, remains that the Cost Estimate Manual was approved by ED (Engineering) and was yet to be approved by the Board of Directors (BOD) of PGCIL.

6.2 Delay in finalisation of contracts

In terms of WPPP of PGCIL, taking investment approval date as 'zero date', PGCIL finalized Master Network (MNW) of each project, indicating contract wise dates for start and finish of various activities such as award, commencement of supply/erection, completion of supply/ erection, *etc*. For ensuring completion of projects in time, it was necessary that various contracts required for execution of the main project were awarded in such a way that each contract was completed by the scheduled completion date. It was, however, noticed in audit that delay in award of 57 contracts resulted in extension of scheduled project completion dates of their respective main projects by four to 830 days and consequently delayed the concerned projects.

Further analysis revealed that delay was due to: (i) delayed funding tie up with World Bank (in case of ERSS-I[58], East-West Transmission Corridor and WRSS-II[59] projects), and (ii) excessive time taken by Management in award of contracts.

WPPP stipulated timelines for the entire process of award of contracts as per which contracts to be executed with domestic funding should be completed within 20 weeks from the date of opening of the bids till issue of Letter of Award. A timeframe of 28 weeks is allowed in the case of multi-lateral funding for the award process. Against these benchmarks, range of time actually taken by PGCIL in award of 424 contracts selected for Audit is shown in Table 6.1.

Table 6.1

Time taken in award of contracts

Projects under Domestic funding		Projects under Multilateral funding	
Time taken in finalisation of Contract (in weeks)	**No. of contracts finalised**	**Time taken in finalisation of Contract (in weeks)**	**No. of contracts finalised**
Within benchmark of 20 weeks	92	Within benchmark of 28 weeks	87
20 - 30	70	28 - 40	46
30 - 40	51	40 - 50	11
40 - 50	26	Above 50	10
Above 50	31	-	-
Total	**270**	**Total**	**154**

179 contracts (92 plus 87 contracts *i.e.* 42 *per cent*) were thus finalized within the prescribed time frame of 20/28 weeks while 245 contracts (58 *per cent*) were finalized beyond the prescribed time frame.

[58] *Eastern Region System Strengthening Scheme-I.*
[59] *Western Region System Strengthening Scheme-II.*

MOP stated (March 2014) that the timeline stipulated in WPPP for finalisation of contract is indicative and aspirational considering the best efforts and presuming that there would be no hindrance beyond control in award of contracts; however constraints were inevitable in any project such as acquisition of land for various sub-stations, changes in taxes and duties by the Government during evaluation / award process, capacity and capability constraints, change in the Transmission Scheme elements and linkage of Transmission system with Generation project. Regarding delays in funding tie-up, MOP stated that this was due to more time taken during clarifications/assessment/post bid discussions.

The reply is to be viewed against the fact that delays would result in PGCIL losing additional Return on Equity (ROE) of 0.5 *per cent* and revenue from tariff would be deferred.

6.3 Delay in commissioning of projects

Time is the essence of every contract so as to ensure completion of the project as per schedule. At the time of seeking investment approval, scheduled timeline for completion of project is laid down. From 1 April 2009 onwards CERC has specified benchmark timelines for transmission projects, (from date of investment approval by the Board of Directors till date of commercial operation) ranging from 24 months to 42 months, depending on plain area, hilly terrain *etc.* and provided that additional Return on Equity amounting to 0.5 per cent would be applicable if these timelines were met. Hence PGCIL decided to fix scheduled timelines accordingly for projects taken up after 1 April 2009.

Out of 20 projects selected for audit, four projects were approved by PGCIL after 1 April 2009 when CERC benchmark timelines became applicable while the remaining 16 projects were approved by PGCIL before 1 April 2009. Status regarding commissioning of these projects is given in Table 6.2 (Details in ***Annexure 6.1***).

Table 6.2

Status of commissioning of projects

Range of delay in commissioning/anticipated commissioning of projects beyond scheduled date / CERC benchmark* (in months)	**Projects approved before 1.04.2009**		**Projects approved after 1.04.2009**	
	Completed projects (No.)	**Ongoing projects (No.)**	**Completed projects (No.)**	**Ongoing projects (No.)**
NIL	1	-	-	-
1 - 10	5	-	-	1
11 - 20	2	1	-	1
21 - 30	3	1	1	1
31 - 40	0	0	-	-
Above 40	1	2	-	-
Total	**12**	**4**	**1**	**3**

*For projects approved after 1 April 2009

Out of 20 projects selected for examination in Audit, only one was completed within the scheduled time. Delay was above 20 months in nine projects. Time taken in acquisition of land, handing over site and providing approved drawings to contractors, release of advance to contractors and forest clearance had contributed to delays which were possible to have been controlled by PGCIL, with more effective planning and monitoring.

CERC regulations allow charging tariff for transmission system elements that are ready for regular service but are prevented from providing such service for reasons not attributable to PGCIL. Accordingly, delay in commissioning of projects beyond their scheduled date of commissioning had financial implications for PGCIL. Revenue (the impact of which was not possible to be quantified in audit pending issue of final tariff orders in these cases) was deferred for the periods of delays in commissioning of projects.

Further, as per CERC (Terms and Conditions of Tariff) Regulations, 2009, for projects commissioned within the scheduled timeline from April 2009 to March 2014, an additional Return on Equity (RoE) at the rate of 0.50 *per cent* is allowed over the life of the project. Due to delays in four projects approved after 1 April 2009 (in the audit sample of 20 projects), PGCIL would also have to forego this additional return on equity of approximately ₹350.28 crore based on approved project cost (***Annexure 6.2***) over the project life of 35 years from the date of commissioning.

MOP stated (March 2014) that

- reasons for delay were actually beyond reasonable/direct control of PGCIL as (i) land acquisition process involved State Governments and resistance from land owners had to be handled; (ii) delay in drawings was due to change in scope necessitated due to varying geographical conditions and Right of Way issues; (iii) forest clearance was a cumbersome process leading to delays.
- CERC timelines were actually meant for incentivizing exceptional performance/early completion because these timelines did not consider the time required for tendering (5-6 months) and margins for right of way, forest clearance, law and order problems, *etc*. MOP had also constituted a Task force on transmission projects which recommended suitable time margins depending on the involvement of forest, national park/wildlife sanctuaries, right of way/land acquisition constraints, law and order problems, size of the project etc. CERC has subsequently increased the timeline by six months considering these practical problems.
- indemnification process for matching transmission project timelines with that of generation projects provides for compensation to be paid by the generator to the extent of IDC[60] of Transmission Projects equivalent to transmission component for a period of six months. Therefore, wherever the generation project was likely to be delayed more than

[60] ***Interest during construction***

six months, it was generally felt prudent to delay completion of transmission lines so as to match the completion with that of anticipated generation schedule, as far as possible.

- there has been no incidence of bottling up of generation due to delay in transmission projects for transfer of power under Long Term Access.

MOP, however, assured (March 2014) that PGCIL had initiated certain measures like negotiated/consent purchase of land, simplifying of forest clearance procedure through intervention of MOP, *etc*. which were expected to help in faster implementation of projects in future.

Reply needs to be viewed against the following:

(i) While considering the views of stakeholders at the time of finalisation of Tariff Regulations 2014-19, CERC did not accept the plea of PGCIL that land acquisition and Right of Way issues were factors beyond control of PGCIL. Accordingly, Tariff Regulations 2014-19 stipulated only force majeure events and change in law as uncontrollable factors.

(ii) Task Force was constituted (February 2005) by MOP for identifying ways and means to implement transmission projects within 24 months' time frame. Task force in its Report (August 2005) recommended suitable margins for ROW/forest clearance etc. However, subsequently CERC rationalised the timelines with effect from 1 April 2009 considering views and submissions of various stakeholders. PGCIL did not complete three out of four projects in the Audit sample[61], even within the extended period of six months allowed under the new Tariff Regulations (2009-14).

(iii) the general principle in commissioning of transmission system is that transmission has to precede generation and CERC Regulations permit earning of revenue by PGCIL even if the associated generation project is not ready.

(iv) As regards the claim that there was no bottling of power, the fact remains that pending commissioning of Odisha Part B transmission project, power was evacuated through interim arrangements leading to congestion in the network as brought out in para 3.1.4 *supra*.

[61] ***Odisha Part B, Krishnapatnam, Sasan & Mundra and 65 kV central part of Northern Grid Part-III***