CHAPTER X: MINISTRY OF POWER

NTPC Limited

10.1 Loss due to disallowance of Capital Expenditure

Non-procurement of initial spares within the cut-off date coupled with not exercising regulatory recourse against delayed supply led to disallowance of capital expenditure of ₹17.03 crore.

As per Tariff Regulations 2004, capital expenditure actually incurred after the date of commercial operation and up to the cut-off[1] date, on procurement of initial spares as per the original scope of work was allowed for capitalisation. NTPC Limited (NTPC) set up Stage-III (one unit of 210 MW) of Feroze Gandhi Unchahar Thermal Power Station, the commercial operation of which was declared on 01 January 2007. In line with the tariff regulations, the cut-off date for capitalisation against this project was 31 March 2008. Initial spares, if procured, by 31 March 2008 would have been eligible for capitalisation.

Audit noticed that NTPC procured the initial spares valuing ₹17.03 crore late, during 2009-10 and 2011-12 and claimed capitalisation of the same in the tariff petition filed before Central Electricity Regulatory Commission (CERC) for the period 2009-2014. CERC disallowed (May 2012) the capitalisation as the expenditure was incurred after the cut-off date. CERC also noted that NTPC failed to initiate pro-active steps to complete the procurement of spares within the cut-off date. A review petition filed by NTPC in this regard was also disposed (April 2013) by CERC on similar grounds. Subsequently, NTPC filed an appeal before Appellate Tribunal for Electricity (ATE), which upheld (April 2014) the decision of CERC. ATE observed that when it was known that the spares could not be delivered before the cut-off date, NTPC could have moved an application before CERC under Regulation 13[2] of Tariff Regulations 2004 for extension of the cut-off date, which was not done.

The Management stated (March 2017) that the order for spares was placed on 15 June 2007, much before the cut-off date and supplies were expedited by visits of NTPC executives, but delay was on account of BHEL.

The reply is not acceptable. Though NTPC was aware that all works covered in the original scope were to be completed before the cut-off date, the order for initial spares was placed after commercial operation of the generation unit with a delivery schedule beyond the cut-off date. Therefore, it was known at the time of placing the order that the supplies would not be made by BHEL before cut-off date. NTPC also failed to exercise regulatory recourse against such delay by filing separate application before CERC for extension of the cut-off date in line with Tariff Regulations 2004.

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[1] ***Cut-off date means the date of first financial year closing after one year of the date of commercial operation of the generating station***

[2] ***Regulation 13 - Power to Relax: The Commission, for reasons to be recorded in writing, may vary any of the provisions of these regulations on its own motion or on an application made before it by an interested person***

Thus, failure of NTPC to procure initial spares covered in the original scope within the cut-off date coupled with not exercising regulatory recourse against delayed supply in line with Tariff Regulations 2004 led to disallowance of capital expenditure of ₹17.03 crore.

The matter was referred to the Ministry in September 2017; their reply was awaited (February 2018).

NTPC-SAIL Power Company Private Limited

10.2 Extra expenditure on water by NSPCL, Bhilai

NTPC-SAIL Power Company Private Limited incurred extra expenditure of ₹11.42 crore between June 2013 and March 2017 due to its failure to re-assess the requirement of water for Bhilai Expansion Project (PP-III) and take steps to reduce the contracted quantity of water with Government of Chattisgarh.

NTPC-SAIL Power Company Private Limited (NSPCL or Company) requested Water Resources Department (WRD), Government of Chhattisgarh (GoC) for allotment of 0.6 TMC[3] (17 million cum) water per annum for the Bhilai Expansion Project (PP-III, 2 x 250 MW power plant). An agreement was entered into between NSPCL and GoC (7 August 2008) for drawing 1415840 cum[4] of water per month from Tandula Water Resources for a period of thirty years from the date of signing of the agreement. As per clause 2 of the agreement, NSPCL was required to pay for at least 90 *per cent* (15.29 million cum[5]) of the contracted quantity of water, even if the actual quantity drawn was lower.

Audit observed that:

i. Commercial operation of the plant started in 2009-10. The average water consumption was 70.5 *per cent* of the contracted quantity during the period 2010-11 to 2016-17. In fact, in 2016-17, there was a steep decline in water consumption from 11.97 million cum in 2015-16 to 10.60 million cum, which the Management attributed to its special drive to save water resources. NSPCL, however, paid water charges for 90 *per cent* of the contracted quantity for the entire period.

ii. Coal and water are key input requirements for thermal power generation. Coal is required to raise steam in boilers which turns the turbine. Requirement of additional water would depend upon additional coal availability. The Standing Linkage Committee (SLC) of Ministry of Coal, for Power, Cement and Sponge Iron, in their meeting held on 31 May 2013, decided that fresh applications for coal linkages from power sector would be kept in abeyance for a period of two years in view of the huge gap in supply and demand of coal. With chances of additional coal linkages remote, the utilisation of excess contracted water for alternate use was also unlikely.

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[3] *1TMC = One thousand million cubic feet = 28,316,846.59 cubic metre (cum). Thus, 0.6 TMC = 16.99 million cum*

[4] *Monthly requirement: 16.99 million cum/12 = 1415840 cum*

[5] *90 per cent of annual contracted quantity of 16.99 million cum = 15.29 million cum*

Audit noticed that in the first three years of operation (2010-11 to 2012-13), the average consumption of water was 75 *per cent* of the contracted quantity (12.75 million cum). Considering the lower water consumption trend, the Company ought to have revised the contract with GoC to avoid extra expenditure on contracted water not consumed. Audit worked out the excess expenditure of the contracted water over June 2013 to March 2017 (allowing first three years for the company to notice the water consumption trend), as detailed in table below:

Year	**Water drawn by NSPCL (cum)**	**90 % of reduced water quantity of 14.2 million cum[6] (cum)**	**90 % of actual water quantity of 17 million cum on which payments were made (cum)**	**Excess quantity for which payment made (cum)**	**Rate of water (₹per cum)**	**Excess Amount paid due to non-revision of allowable quantity (₹)**
1	2	3	4	5 (4-3)	6	7(6x5)
June 2013 to March 2014	9227892	10650000	12742569	2092569	10.65	22285860
April 2014	1133901	1065000	1274257	209257	10.65	2228586
May 2014 to March 2015	10499047	11715000	14016826	2301826	12.25	28197370
2015-16	11976600	12780000	15291083	2511083	12.25	30760767
2016-17	10604636	12780000	15291083	2511083	12.25	30760767
Total						**114233350**

Thus, over June 2013 to March 2017, the Company incurred excess expenditure of ₹11.42 crore on water. With periodic revision in water charges, the excess expenditure incurred by the Company would increase in future, unless the contracted quantity of water is rationalised.

The Management stated (October 2017) that in view of its plan to install two 660 MW plants at Bhilai during FY 2024 & FY 2025, the requirement of water shall increase considerably and therefore, it shall not be prudent to surrender the contracted water quantity as it shall be impossible to get it back during the expansion.

The reply of the Management is not tenable in view of the following:

(i) The proposed plan to install two 660 MW units at Bhilai is at a very nascent stage. Only preliminary discussions (May 2017) have been held with Bhilai Steel Plant management and even consent of Steel Authority of India Limited (SAIL) to take up a detailed study for preparation of feasibility report has not yet been obtained (December 2017). Even if SAIL's consent is received, it would take another eight years[7] since such date, as per the Company's own assessment, to commission the power plant. Thus, NSPCL would continue to pay excess water charges for the next 8-9 years which at the current rates would be ₹24 crore.

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[6] ***If the average consumption (12.75 million cum) was fixed as the minimum contracted drawal by NSPCL, the contracted water quantity would be reduced to 14.2 million cum***

[7] ***including 2-3 years' time for preparation of Feasibility Report, tie up of inputs and in obtaining the clearances and five years from the date of main plant order for commissioning of power plants***

(ii) Useable surface water in Chhattisgarh state is 41,720 million cum, out of which only 18,249 million cum of water is being used. Thus, more than 20,000 million cum are potentially available for future use. Estimated ground water in the state is 14,548 million cum and presently, only 18.31 *per cent* has been explored. Besides, GoC has been consistently ranked fourth among 36 States and UTs in the country (2015 and 2016) for Ease of Doing Business[8] and has established a single window clearance for online application and approval of requirements including *inter alia*, water requirements. Therefore, the apprehension of NSPCL that they would not regain the surrendered water quantity in future is not supported by evidence.

Thus, NSPCL incurred extra expenditure of ₹11.42 crore during June 2013 to March 2017 on account of its failure to re-assess its requirement of water for Bhilai Expansion Project (PP-III) and take steps to reduce the contracted quantity of water with Government of Chattisgarh. With periodic revision in water charges, the excess expenditure incurred by the Company would increase in future.

The matter was referred to the Ministry in November 2017; their reply was awaited (February 2018).

Power Grid Corporation of India Limited

10.3 Performance of Telecom Business

10.3.1 Introduction

Power Grid Corporation of India Limited (Company) is the largest electric power transmission utility of the country. The Company had laid optical fiber cables on its power transmission lines since 1996 to track real-time data for Load Dispatch and Communication purposes for monitoring the power transmission system. This was done by replacing one of the earth wires in the transmission lines with a special cable known as Optical Ground Wire (OPGW) which serves the purpose of earth wire as well as optical fiber. Thus, electricity is transmitted through the overhead metal wires while real-time data from sub-stations etc. is transmitted electronically through OPGW strung alongside the metal wires. The OPGW had 24 fibers[9] out of which six fibers are required for load despatch functions while the balance fibers are available for transmission of data.

Sensing business potential in data transmission through the spare fibers in OPGW, the Company diversified into telecom business in October 1998. The backbone telecommunication network[10] is built by installing the necessary equipment (routers, transponders, repeaters etc.) along the fiber route. As of September 2017, the Company has installed about 41988 km of telecom network and provided connectivity to about 595 POPs (Point of Presence) including all metros, major cities and towns, remote areas of North East Region (NER) and Jammu and Kashmir.

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[8] *in an assessment made by the Department of Industrial Policy and Promotion, Government of India in partnership with the World Bank Group*

[9] *Optical wires have 6, 12, 24, 48 or 96 fibers and the company generally installed optical wires having 24 fibers*

[10] *A network backbone is the core infrastructure of a network that connects several major network components together*

The telecom business of the Company involves leasing of 'bandwidth[11]', which essentially means the grant of access of specified optical width of its telecom network to customers, between specific end points for the agreed time period. The unit of measurement of bandwidth is Mbps and Gbps (mega/million bits per second and Giga/billion bits per second). Higher the bandwidth purchased, higher would be the speed of data transmission. Cumulatively, the Company has created a bandwidth of 11660 Gbps along the various fiber routes out of which 8380 Gbps is in use, *i.e.,* leased to various customers.

10.3.2 Organisation setup

Telecom Division of the Company is headed by Chief Operating Officer (Telecom) (COO). The National Telecom Control Centre (NTCC) at Delhi functioning under the Telecom Division provides round the clock network management including link monitoring, customer complaint resolution and provision/termination of the links. Four Regional Telecom Control Centres (RTCCs) at Delhi, Kolkata, Mumbai and Bengaluru also function under this Division. To advise the Company about emerging business challenges, strategic decisions etc. in the telecom sector, a Telecom Advisory Board comprising six eminent personnel from the field of telecom had been constituted (July 2010).

10.3.3 Audit objectives and scope

The audit objectives were to assess whether (i) pricing methodology was consistent, transparent and in line with market conditions and (ii) the operations of telecom business was carried out efficiently. Audit covered the activities of the Telecom Division from 2012-13 to 2016-17.

10.3.4 Audit criteria

The criteria used for audit included: (i) Tariff orders issued by Telecom Regulatory Authority of India (TRAI), (ii) Marketing policy and delegation of powers, (iii) Agenda and minutes of meetings of Board of Directors, (iv) Agenda and minutes of meetings of Telecom Advisory Board and (v) MOU/internal targets.

10.3.5 Diversification into Telecom Business

Audit appreciates the use of power transmission lines to provide the infrastructure for setting up a high grade long distance telecommunication network. Diversification into telecom business provided a new revenue stream and scope for value creation. Audit noted that apart from a new source of revenue, the telecom business provided an opportunity for the Company to be associated with Digital India initiatives of Government of India such as National Knowledge Network (which provided connectivity to Educational and Research Institutions in the country) and National Optical Fiber network (which provided connectivity to Gram Panchayats). While the diversification into telecom business was commendable, Audit has analysed whether the Company had taken adequate steps for improving profitability of the telecom business.

[11] ***Bandwidth is defined as the amount of data that can be transmitted in a fixed amount of time. For digital devices, the bandwidth is usually expressed in bits per second (bps) or bytes per second***

10.3.6 Audit findings

10.3.6.1 Operations of Telecom Division

The Company has acquired three licenses, *viz.*, Infrastructure Provider Category-I (IP-I) license in November 2002, Internet Service Provider (ISP) Category-A license in May 2003 and National Long Distance (NLD) license in July 2006. The NLD and ISP licenses were subsequently converted into a unified licence in May 2017. The following table gives details financial performance of telecom division for the period from 2012-13 to 2016-17.

Performance of Telecom Division during 2012-13 to 2016-17

Year	Revenue				Total	Expenditure	Profit
	IP-I	ISP	NLD	Others			
	(₹ crore)						
2012-13	10.31	1.36	227.06	5.18	243.91	156.68	87.23
2013-14	8.63	1.68	268.41	9.61	288.33	194.83	93.50
2014-15	8.43	2.78	272.48	17.71	301.40	237.61	63.79
2015-16	8.28	2.09	391.28	34.89	436.54	273.33	163.21
2016-17	9.02	15.38	507.21	29.41	561.02	303.84	257.18

From the above table, it is seen that the profit of the telecom business of PGCIL has been on a rising trend since 2015-16. It was seen that the Feasibility Report (April 2000) had envisaged that the business would become cash positive in 2005/2006 and payback would be achieved in 2007. Though telecom business of the Company started earning profits 2009-10 onwards, payback is yet to be achieved.

The bulk of the revenue (90 *per cent* to 93 *per cent*) was derived from the NLD license with the Company not having exploited the full potential of IP-I (including tower business) and ISP. Even though NLD license was the prime component, its market share ranged from 0.84 *per cent* to 1.37 *per cent*, much lower than the anticipated market share of 7.20 *per cent*.

Audit also noticed that there were gaps in the transmission network of the Company. The Company has leased fibers from 16 State Transmission Companies (Transcos) to fill these gaps while leasing arrangements were still under discussion with eight State Transcos. In case of existing network also, there were some routes[12] where the available capacity has already been depleted.

The Management replied (November 2017) that:

- Major Telecom Service Providers (TSP) have rolled out their own telecom backbone networks and were sharing their networks amongst themselves, which has led to reduced potential market for neutral players.

- Attempts to lease tower space did not receive adequate response due to changed market conditions.

[12] ***Delhi-Chennai, Kolkata-Chennai and Delhi-Mumbai***

- Efforts to maintain a good share of the available market through better quality services and continuous addition of new customers is ongoing.
- The company had endeavoured to lease fibers from State Utilities wherever network demands could not be met but finalisation of lease agreements with the state utilities was time consuming.
- The orders received so far have been executed without any capacity constraints and up-gradation of network was planned to cater to future requirements.
- The delay in payback of initial investment was due to delayed network roll out due to clearance issues, pricing pressure due to entry of competitors and steep fall in bandwidth prices. If the cash flows alone were considered, ignoring depreciation, the business turned cash positive in 2015-16.

Even considering the Management response, the Company needs to strengthen its marketing efforts to achieve higher market share and ensure that gaps in its network connectivity are addressed which would help in achieving increased revenue and profitability.

10.3.6.2 Pricing methodology

A. Multiplication factor for scaling of tariff for higher capacities

TRAI notified (April 2005) Telecommunication Tariff Order stipulating the maximum prices up to the capacity of STM-1 (155 Mbps)[13] in the Domestic Leased Circuit segment. Based on this, the Company carried out an exercise (May 2012) to set the prices for various bandwidth capacities. It was decided to standardise a multiplication factor[14] for scaling up the price from STM-1. To arrive at the multiplication factor, the Company was guided by the TRAI Consultation Paper dated 22 June 2004 on 'Revision of Ceiling Tariff for Domestic Leased Circuits', which stated that for every successive increase in capacity, price roughly doubles while the capacity quadruples. Endorsing this view, telecom consultant of the Company, M/s KPMG, also suggested (February 2011) price multiples in the range of 2.2 to 2.6 for quadrupling of capacity. The Company chose a multiplication factor of 2.5 (May 2012) for arriving at the bandwidth prices. The prices arrived at by applying the multiplication factor forms the basis for offers to various customers.

In July 2014, TRAI adopted a multiplication factor of 2.6 to arrive at the ceiling tariff (TRAI notification of 14 July 2014). Audit observed that the Company did not review its multiplication factor of 2.5 in light of the TRAI notification. It was also noticed that the tariff notification had mentioned that the multiplication factor adopted by various TSPs ranged between 2.5 and 3.1 and most of the TSPs used multiplication factor of about 2.6 for the bandwidth tariff. The multiplication factor for the Company, thus, had been lower than the market and continued to be lower than the multiplication factor adopted by

[13] ***Synchronous Transport Module level-1***

[14] ***Multiplication factor is the number with which the tariff for bandwidth capacity of STM-1 is multiplied to arrive at the tariff for successive higher capacities***

TRAI. The Company also allows discounts on the offer prices for bandwidths arrived at by applying the multiplication factor.

Audit worked out the prices for bandwidths offered during April 2015 to March 2017 considering a multiplication factor of 2.6 and allowing for a discount of 90 *per cent* (discounts up to 90 *per cent* could be allowed as per the Delegation of Power[15]) and found that the Company could have increased its revenue by ₹67.87 crore (approx.) from links provided during April 2015 to March 2017 if it had revised the multiplication factor from 2.5 to 2.6.

The Management stated (November 2017) that the multiplication factors used were only for arriving at ceiling tariffs on which discounts were applied to match market prices to secure business. If the Company had to revise the multiplying factor upwards for higher capacities, then in order to meet the market prices, higher discounts would have to be offered to match the prevailing market prices as the customers are not going to increase their existing pay-out but were always on lookouts for further reductions.

The reply is not acceptable. Audit has considered an overall discount of 90 *per cent* while working out the loss to the Company. It is pertinent to note that discounts of 90 *per cent* were rare in the Company. During 2016-17, in 92 cases, discounts between 85 *per cent* and 89.47 *per cent* was offered in only three cases while the Company did not offer any discount in 8 cases with the balance discounts varying between 6 *per cent* and 85 *per cent.*

B. Incorrect application of multiplication factor

The Company received an enquiry from M/s Vodafone Mobile Services Limited, Mumbai (Vodafone) for six links of 10 Gbps each (i.e., 2x10 Gbps each on three routes) and submitted (March 2016) its offer quoting ₹25.71 crore with 4 *per cent* annual maintenance changes. After negotiation, the Company submitted its final quote of ₹22 crore (May 2016) with the contract value of ₹35.20 crore.

Audit noticed that the Company has applied incorrect multiplication factor for calculating the quoted price. As per the approved pricing multiples, a link of 10 Gbps is required to be multiplied with a factor of 11.66 for each link of 10 Gbps (6x11.66) whereas the Company applied a multiplication factor of 16.60 (3x16.60) considering 3 links of 20 Gbps. If the correct multiplication factor had been applied, the contract price would have been ₹49.45 crore.

On identifying (February 2017) the error, the Company reworked the price calculations. Since the contract had already been finalised at ₹35.20 crore, the Company had to offer a higher discount of 86.313 *per cent* (as against 80.771 *per cent* earlier) to maintain the contract value at ₹35.20 crore.

The Management stated (November 2017) that the error in multiplication factor was inadvertent and application of correct multiplication factor would not have changed the

[15] ***Assistant Generation Manager–up to 30 per cent ; Deputy General Manager–up to 40 per cent ; Additional General Manager–up to 50 per cent ; General Manager–up to 65 per cent ; Chief Operating Officer–up to 85 per cent; Director in Charge– up to 90 per cent and Chairman and Managing Director– full power***

deal value as the prices were finalised after due negotiations. The deal value was finalised as a lump sum amount and multiplication factors and discounts are used for taking internal approvals.

Though a final lump sum amount was agreed to after negotiations, the justification for the price was derived benchmarking it against a base price. Since the base price itself was incorrectly applied, the Company had no option but to offer a higher discount.

C. Long term connectivity to customers

The Company entered into long term contracts where the customers were granted indefeasible right to use (IRU)[16] the optical bandwidth capacity. The details of such IRU contracts, which are currently (March 2017) in force, are given below:

Details of IRU Contracts entered into by the Company

Sl. No.	Name of customer	Links contracted			Period of contract (Years)	Date of agreement/ Purchase order	Contract value (₹crore)
		Total capacity	Individual link capacity	No. of links			
1	Bharti Airtel Limited (Airtel)	STM-16 (2.5 Gbps)	Network in the NE Region	NA	15	02.04.2007	70.91
			Network in J & K region (including links from Pathankot in Punjab)	NA	15	01.10.2007	45.18
2	Reliance Jio Infocomm Limited (Reliance Jio)	393 Gbps	100 Gbps	3	20	07.08.2014	216.45
			10 Gbps	9			
			1 Gbps	3			
		104 Gbps	10 Gbps	10	20	27.03.2015	241.09
			1 Gbps	4			
		1 Gbps	1 Gbps	1	20	30.11.2015	5.73
		100 Gbps	10 Gbps	10	20	22.09.2016	237.34
3	Vodafone Mobile Services Limited (Vodafone)	60 Gbps	10 Gbps	6	15	15.03.2016	35.20
4	Mahataa information India Private Limited (Google)	100 Gbps	10 Gbps	10	10	02.09.2015	42.28
		60 Gbps	10 Gbps	6	10	22.05.2014	26.28
Total							**920.46**

All the above contracts were entered into on negotiation basis. The contract price had two components, viz., upfront fee collected as a lump sum amount upon provisioning of the

[16] ***Indefeasible Right to Use or IRU means the exclusive, irrevocable, indefeasible and unrestricted right of use in the relevant optical bandwidth capacity and/or upgrades respectively, each for duration of the relevant IRU term subject to payment of IRU fee (unless terminated earlier under certain laid down circumstances)***

links and annual maintenance charges (AMC) calculated as a percentage of the upfront fee, payable by the customer annually.

C.1 Different methods for arriving at contract value

Audit noticed that the Company does not have pricing policy/ guidelines for IRU contracts and was inconsistent in working out the annual charges across different contracts.

- In the case of Airtel, the annual charges for each contract year were arrived at by successively enhancing the discount rate by two *per cent* (on TRAI tariff). The total contract value was arrived at by working out the net present value (NPV) of the sum of annual revenues over 15 years (the contract period), using a discount factor of 10 *per cent*.

- In the case of Reliance Jio, Vodafone and Google, however, the annual charges were multiplied by 3.5 to arrive at the total contract value, though the contract period varied widely across the three contracts (20 years in Reliance Jio, 15 years in Vodafone and 10 years in Google).

Audit worked out the contract value in case of Reliance Jio, Vodafone and Google using the same methodology applied in case of Airtel. It was seen that the contract revenue may have been higher by ₹317.36 crore in case of Reliance Jio, Vodafone and Google if uniform pricing methodology was followed. It was also noticed that in the case of Reliance Jio, the same multiplication factor of 3.5 was adopted for 23 links in NE Region and J&K, though the Company had fewer competitors in these regions and could have obtained a better price.

The Management stated (November 2017) that the Company has adopted the pricing strategy in line with market practice with all its customers in a particular period and has not discriminately adopted for any one or few customers. Yearly additional discount of 2 *per cent* used by Audit, uniformly in all the cases, was on the lower side since ceiling tariffs were reduced in the Telecom Tariff Order 2014 (TTO) *vis-à-vis* TTO 2005. The deals had better NPVs, if successive additional discount is taken as 6 *per cent*, instead of 2 *per cent* considered by Audit, taking into account the fall in prices as per the TTOs.

The reply is not acceptable. Audit noticed that the change in pricing methodology had not been recorded in the documents seeking pricing approvals. Regarding application of 6 *per cent* successive additional discount, Audit noticed that when the Airtel contract was finalised in 2007, the Company had two TTOs for price comparison (TTO 1999 and 2005). The fall in prices for STM-1 was 88 *per cent* in the two TTOs. Yet, the Company allowed a yearly successive discount of 2 *per cent* only while working out the bandwidth charges for 15 years for Airtel. The fall in prices between TTO 2005 and TTO 2014 was 57.8 *per cent* and hence applying 2 *per cent* additional discount every year appears to be justified. The Management did not reply to the observation regarding the NER/J&K links.

C.2 Non-levy/ short levy of Annual maintenance charges (AMC)

Audit noticed that AMC was not levied in the case of Airtel. In the remaining cases, AMC of 4 *per cent* to 4.3 *per cent* was levied, which was lower than the repair and maintenance

cost of 7 *per cent* of capital expenditure envisaged in the feasibility report. The actual repair and maintenance charges incurred by the Company ranged between 6.25 *per cent* and 10.57 *per cent* of total revenue during 2012-13 to 2016-17, average being 8.61 *per cent*. Non-levy/ short levy of AMC resulted in lower revenue realisation compared to the incurred costs.

The Management stated (November 2017) that maintenance of the network was its sole responsibility and cost of maintaining the network was included in the prices. The Management added that though AMC was charged from customers, these were in the nature of annual recurring charges (ARC) agreed mainly for the purpose of recovery of downtime penalties.

The fact remains that though the network was maintained by the Company, indefeasible right to use the contracted capacity vested with the customers and the basic principle of tariff mechanism required that the beneficiaries pay for maintenance.

D. Discounts on TRAI Tariff

TRAI stipulated that service providers can offer discounts on the ceiling tariffs and discounts, if offered, should be transparent and non-discriminatory based on laid down criteria. As per the criteria laid down by PGCIL, discounts offered were based *inter alia* on volume of business; - higher the volume of business, higher the discount.

Review of discounts offered to the customers revealed that the discounts offered to customers were not consistent with the volume of business as evident from the following:

- Discounts of 74 *per cent* and 63 *per cent* were allowed to two customers whose annual volume of business was 3.51 *per cent* and 3.20 *per cent* respectively. However, another customer with a higher volume of business (6.42 *per cent*) was offered discount of 28 *per cent* only.

- Discounts of 79 *per cent* to 80 *per cent* were offered to two customers though their volume varied significantly (15.44 *per cent* in case of one customer and 25.50 *per cent* in case of the other).

- Discounts ranging between 41 *per cent* and 67 *per cent* were allowed to government customers while private customers with similar volume of business were offered higher discounts ranging between 64 *per cent* and 79 *per cent*.

Thus, there had been lack of transparency in offering discounts to various parties.

The Management stated (November 2017) that higher discounts had to be given to customers to counter aggressive pricing of competitors. In order to secure business, it was imperative to match price expectation of customers and addition of these customers enhanced the brand image of the Company. Bandwidth demand from many of the government customers was relatively small and government sector prefers its network due to the support and quality of service extended.

Offering higher discounts to match price expectations was not among the factors specified in the laid down policy for offering discounts. Preference of Company's network by government customers cannot be a basis for offering lower discounts.

10.3.6.3 Termination of links

The Company provides last mile connectivity to customers from Company's point of presence to customer locations. These links may be terminated due to creation of customer's own link, upgradation of link to higher capacity, customer's dissatisfaction with network performance, non-payment of dues by customer etc. Details of termination of links during the period from 2012-13 to 2016-17 are summarised in the following table:

Year-wise summary of commissioning of links

Year	No. of links commissioned	No. of links terminated	Cumulative no. of links up to end of the year
2012-13	212	04	2697
2013-14	236	17	2933
2014-15	313	356	3246
2015-16	396	352	3642
2016-17	328	917	3970

Audit noticed that between 2014-15 and 2016-17, 1625 links were terminated as against 1037 new links commissioned during this period. 162 links were terminated within one year of their commissioning.

Despite large number of terminations, the Company has not implemented a proper system of retrieval of equipment placed at customer location and safe custody of the equipment. In the absence of such a system, pilferage/ misappropriation of such equipment cannot be ruled out.

The Management stated (November 2017) that the record keeping of equipment and fiber stretches of terminated links shall be improved to avoid any possibility of pilferage/misappropriation.

The assurance of the Management is noted. It is seen that the Company provides new links after cost-benefit analysis and the cost incurred for providing last mile connectivity would be recovered only if the links are operational for two years. The Company incurs loss in the event of early termination of links. The timely retrieval of equipment placed at customer location and its safe custody, therefore, becomes essential.

10.3.6.4 Non-levy of interest on delayed payments

The Company has a computerised system for customer billing (except for IRU deals). The Service Level Agreements (SLA) with customers provided for levy of interest on delayed payments (as per rates notified from time to time). The computerised billing system, however, did not provide for levy of interest. In fact, Telecom Division has not levied interest on delayed payments since inception of business on the premise that it would have negative impact on the growth of business.

The following table indicates position of outstanding dues for the years 2015-16 and 2016-17[17]:

Details regarding outstanding debtors

Quarter	Quarter ending on	Total revenue booked	Total debtors	Debtors more than six months	Debtors more than six months to total debtors (%)
		(₹in crore)			
2015-16					
Q-1	30-06-2015	97.92	62.37	34.75	55.72
Q-2	30-09-2015	108.03	71.19	37.42	52.56
Q-3	31-12-2015	113.78	86.52	40.08	46.32
Q-4	31-03-2016	116.81	83.10	45.11	54.28
2016-17					
Q-1	30-06-2016	122.48	103.37	45.25	43.77
Q-2	30-09-2016	143.64	119.86	50.62	42.23
Q-3	31-12-2016	145.72	124.93	56.87	45.52
Q-4	31-03-2017	149.18	102.42	52.29	51.05

As can be seen from the above table, payments were delayed for more than six months in 42 *per cent* to 55 *per cent* of the cases. Audit noticed that Telecom Advisory Board suggested (October 2014) framing of an incentive/disincentive policy to address the payment realisation issue. However, no such measure has been implemented so far. (November 2017).

The Management stated (November 2017) that being a small player in telecom market with limited number of customers, imposing interest charges on them might have negative impact on growth of business. When the prices for the services were going down continuously, levying interest on the delayed payments would lead to increased cost of services. The policy for incentive/disincentive for timely/delayed payments was still under active consideration.

Since delayed realisation of income results in opportunity loss to the Company, an appropriate mechanism needs to be implemented to ensure timely realisation of dues.

10.3.6.5 Sharing of revenue for using transmission assets for telecom business

The telecommunication business of the Company is carried out using fiber optic cables strung in its transmission network. Thus the infrastructure like towers, right of way etc. are utilised for both transmission and telecommunication businesses. The number of fibers in the overhead OPGW was generally 12 or 24 (48 fibers also were subsequently introduced). The Company has identified that 6 fibers would be used for transmission business and the remaining fibers would be utilised for telecommunication business.

As per a regulation issued by Central Electricity Regulatory Commission (CERC) in December 2007, the revenue generated by a transmission owner from telecommunication

[17] ***Since the billing was migrated to SAP system, year-wise data pertaining to periods prior to 2015-16 was not available***

business using the transmission network should be shared with the transmission beneficiaries, i.e., the States from whom the cost of transmission assets are recovered by PGCIL. The regulation provided that the transmission owner shall share revenue @ ₹3000/- per year per km and the revenue shared may be apportioned between the users in proportion to the number of fibers identified for utilisation[18].

Audit observed that the revenue shared by the Company was not consistent with the CERC regulations as indicated in the following table:

Revenue not shared by with the transmission beneficiaries

Year	Network as on 31 March	Network for which revenue shared	Network for which revenue not shared	Amount of revenue not shared
	(Km)			(₹)
	(1)	(2)	(3)=(1-2)	(3)x3000x18/24
2012-13	15443	13848	1595	3588750
2013-14	16868	14261	2607	5865750
2014-15	18706	15938	2768	6228000
2015-16	21663	17230	4433	9974250
2016-17	22176	19460	2716	6111000
Total				**31767750**

Thus, the Company shared revenue for a part of the network with transmission beneficiaries. The revenue shared was short by ₹3.18 crore during the period from 2012-13 to 2016-17.

The Management stated (November 2017) that as per CERC Regulations, right-of-way charges of only OPGW links which were used for telecom business were to be shared and the same was being complied with.

The reply is not acceptable. CERC regulations provide for revenue sharing on the basis of right-of-way utilised for laying the cable and not only for those used for telecom business.

10.3.6.6 Downtime credit for network outages

As a general practice, provision is kept for downtime credit for each and every customer in order to compensate the customer for any downtime in the leased circuit. However, it was observed that the Company entered into Service Level Agreements (SLA) with few customers and credit for downtime was allowed to these customers alone when sought for. As a result, against the total provision of ₹19.46 crore made in the accounts of the Company during 2012-13 to 2016-17 towards downtime credit, only ₹9.24 crore was passed on to the customers. Entering into SLA with few customers and allowing them credit only when specifically sought cannot be considered as a non-discriminatory practice.

[18] ***If an optical fiber cable or optical fiber composite overhead ground wire having 'm' fibers has been installed on a transmission line, and 'n' fibers are meant to be used for telecommunication business (remaining fibers being used for Unified Load Despatch and Communication scheme), telecommunication business will reimburse ₹3000 (n/m) per km to the transmission business for reduction of annual transmission charges***

The Management stated (November 2017) that downtime credit was passed on to all the customers as per SLA terms non-discriminately to those who sought for the same.

This does not address the audit concern as SLA was not signed with all the customers nor was downtime credit passed on to the customers in the normal course.

10.3.6.7 Network monitoring system

The Company operated (September 2017) a telecom network of 41988 km comprising OPGW length of 29489 km and underground optical fiber cable length of 12499 km. Outages in the network due to fiber cut, equipment malfunction etc. are tracked by NTCC and taken up with RTCCs for restoration of the affected portion.

The telecom equipment installed by the Company were procured from three different manufacturers. The network monitoring system offered by the manufacturers were used for the respective equipment and three different systems were simultaneously viewed to track the performance of the network. This contributed to slow response to faults since identification of the fault itself took time. Though the Company felt the need to have an integrated network management system, the same has not yet been implemented (September 2017).

The Management stated (November 2017) that an Integrated Management System has been envisaged and notice inviting tenders (NIT) for same has been issued on 29 September 2017.

However, the budget approval for the above was approved in January 2013 and the Company took more than three years to issue the NIT.

10.3.7 Conclusion and recommendations

10.3.7.1 Conclusion

Diversification into telecom business by the Company was commendable and enabled the Company to operate in two important service areas viz. Power and Telecom. However Audit noticed that PGCIL could not achieve the projected market share in telecom business and though the business has been earning profits since 2009-10, it is yet to achieve payback which was anticipated by 2007. There were inadequacies in the pricing methodology followed by the Company. The multiplication factor adopted to scale up tariff for higher capacities was low, which adversely impacted revenue. Pricing of Indefeasible Right to Use contracts was inconsistent with different methods applied for different contracts, leading to lower revenue for the business. The discounts offered by the Company on ceiling tariff were neither transparent nor non-discriminatory. Shortcomings were noticed in sharing of revenue with State transmission utilities for using transmission assets for telecom business. The financial impact of observations worked out to ₹412.88 crore (₹399.48 crore related to pricing methodology and ₹13.40 crore related to sharing of income and allowance of downtime credit).

10.3.7.2 Recommendations

(i) The Company may review the multiplication factor for scaling up bandwidth price in line with the TRAI notification. The Company may also frame a uniform pricing methodology for IRU contracts.

(ii) Transparent criteria for offering discounts to customers may be instituted and uniformly implemented.

The matter was referred to the Ministry in December 2017; their reply was awaited (February 2018).