

October 29, 2019 | Ratings

Inter-State Power Transmission System: A check on Point of Connection Mechanism

Contact:

Amod Khanorkar
Senior Director
amod.khanorkar@careratings.com
+91-22- 6837 4444

Naresh M. Golani
Associate Director
naresh.golani@careratings.com
+91-79-4026 5618

Janki Aswani
Manager
janki.aswani@careratings.com
+91-79-4026 5612

Mradul Mishra (Media Contact)
mradul.mishra@careratings.com
+91-22-6837 4424

Disclaimer: This report is prepared by CARE Ratings Ltd. CARE Ratings has taken utmost care to ensure accuracy and objectivity while developing this report based on information available in public domain. However, neither the accuracy nor completeness of information contained in this report is guaranteed. CARE Ratings is not responsible for any errors or omissions in analysis/inferences/views or for results obtained from the use of information contained in this report and especially states that CARE Ratings has no financial liability whatsoever to the user of this report.

The Point of Connection (PoC) mechanism for the Inter-State Transmission System (ISTS) projects with Power Grid Corporation of India Limited (PGCIL; rated CARE AAA; Stable / CARE A1+) as a pool operator and high bargaining power has built up a track record of efficient payment security mechanism and high collection efficiency. This has resulted in low receivable days of around 40-45 days. Regulation of power (RPS) in case of defaulting counterparties and encashment of letter of credit (LC) has led to realisation of past dues and instilled high developer, investor and lenders confidence in the structure.

While around forty one projects worth around Rs.60,500 crore have been awarded under the tariff based competitive bidding (TBCB) till September 2019, much more investments to the tune of Rs.2,60,000 crore are lined up from FY2017 to FY2022 for envisaged addition of 1,00,000 circuit kilometres (CKM) of transmission lines and over 2,90,000 MVA of transformation capacity. These will not only help in achieving the objective of a strong national grid but will also cultivate an efficient and vibrant electricity market and which facilitates trading and balancing of power across regions.

Why PoC matters?

India plans adding 175 GW of renewable energy (RE) power generation capacity by FY2022, which will require huge investments in the transmission sector. As a thumb rule, setting up of a RE project requires around 12-18 months of time whereas setting up of a transmission system requires at least 18 months of time. Therefore, in order to avoid transmission bottlenecks for upcoming renewable projects, the timelines for execution of transmission projects will have to be in sync with timelines for execution of renewable projects.

This apart, the targeted RE capacity addition is expected to widen the gap between inter-regional power demand-supply as renewable power generation capacities are expected to be set-up in natural resource rich geographies such as western and southern regions for solar, hydro power generation capacities in northern region and whereas thermal in the eastern region or near to the ports. This shall necessitate significant transmission capacity addition for inter-regional transfer of power.

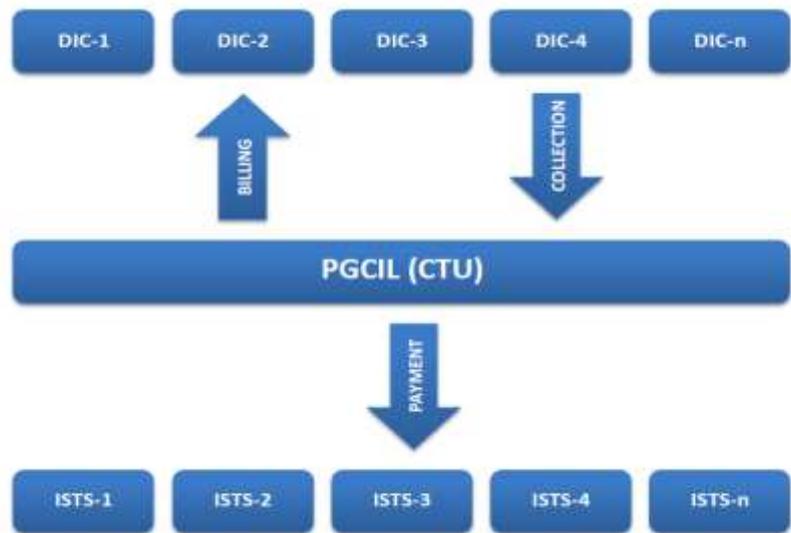
The power deficit in India is on a declining trend and has fallen from 11.07% as at end of FY2008-09 to 0.55% in by end of FY2018-19. With significant amount of power capacity addition of around 200 GW (including 175 GW RE) in the next four to five years, India is expected to be a power surplus nation which would also require cross border transmission assets.

Power transmission systems are the backbone of the entire power system and the Indian electricity market is mired with the weak financial health of the state discoms. In light of this, it is important to ensure an efficient payment security mechanism for timely payment of transmission charges to the transmission system developers in order to keep this key infrastructure vibrant and make it a sustained attractive investment option for the developers, investors and lenders. In CARE Ratings opinion, thus the POC mechanism assumes significance and has assuaged counterparty risk to a large extent.

How PoC mechanism works

In 2010, Central Electricity Regulatory Commission (CERC) notified the (Central Electricity Regulatory Commission Sharing of Inter-State Transmission Charges and Losses) Regulations, 2010 which were implemented from July of 2011. Through these regulations, it introduced the PoC mechanism for determining inter-state transmission charges. Under the PoC mechanism, PGCIL was notified as a Central Transmission Utility (CTU) which spearheads the implementation of the all the ISTS projects in India awarded to the other players.

Under the PoC mechanism, the CTU is the designated agency and acts as the revenue aggregator. It is entrusted with the responsibility of billing and collection of the transmission charges from the designated inter-state customers (DICs) and disbursement of the same to the ISTS licensees. The CTU collects the transmission charges from all the DICs in a central pool and pays the ISTS licensees from that pool, the share of their proportionate charges. Any delay in payment from DICs or any partial payments by the DICs are shared amongst all the ISTS licensees on a pro-rata basis. Any expenses incurred by PGCIL for performing the aforesaid activities are reimbursed to it as part of yearly transmission charges. PGCIL thus functions as a single point of contact between ISTS licensees and the DICs as shown in graph above.



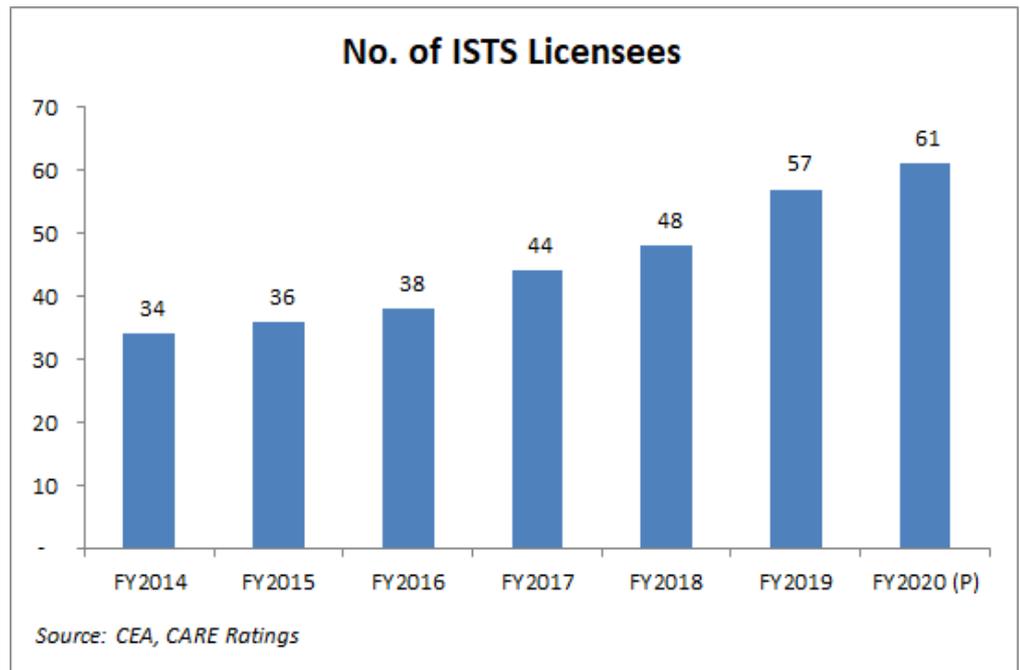
Strengths of the PoC mechanism

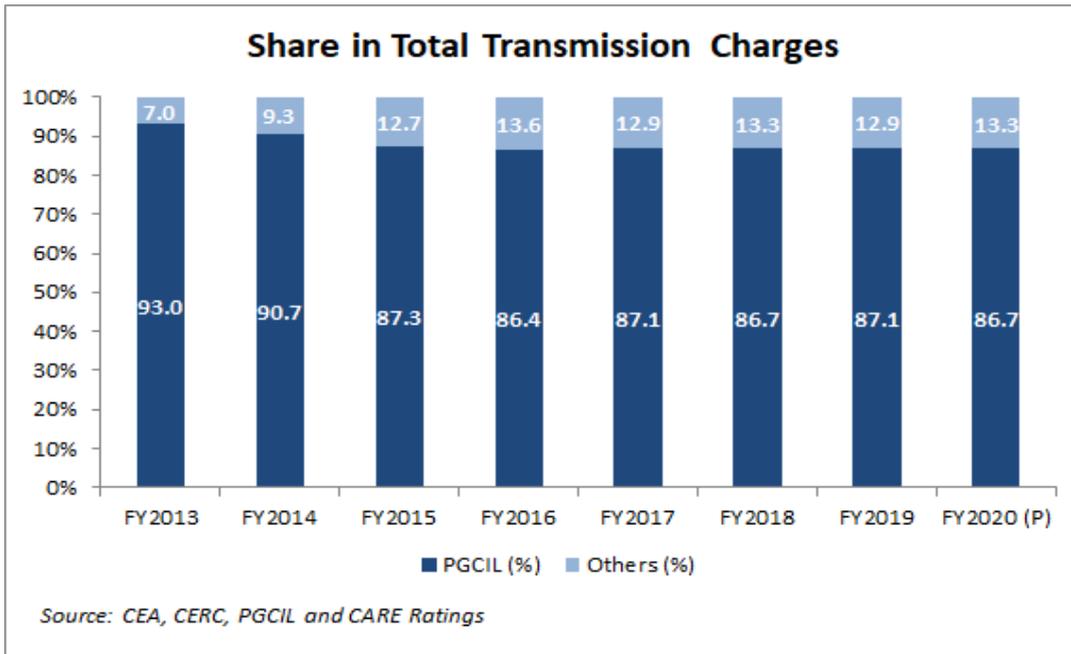
Lower administrative and collection costs	Lower counterparty default risk, as losses are shared across all licensees	Strong collection efficiency and low receivable days of PGCIL
Regulation of power by curtailing the allocated power / denial of STOA to defaulters	Presence of revolving LC which can be utilised in case of any shortfall in payments by the DICs if dues remain unpaid beyond 60 days	Low probability of default by the DICs in view of availability of limited alternative infrastructure
Low operational risks and predictable cash flows	Surcharge on outstanding amount exceeding 60 days @ 1.50% month	Graded rebate for timely payments

Increasing private participation

With the enactment of Electricity Act, 2003 (EA 2003), the transmission segment has undergone tremendous change in terms of private sector participation as the entry barriers for private players in the transmission segment were removed. Further, post introduction of PoC mechanism, the ISTS projects have attracted many private sector players as these projects provide good revenue visibility and favourable risk-return profile to the long term investors. This is demonstrated in the increase in the number of ISTS licensees since FY2014 which is shown in the accompanying graph. During the same period, the number of DICs has increased from fifty eight as at end of FY2013 to around one hundred twenty five as at end of FY2019.

On account of higher private sector participation in the ISTS projects, the revenue share of PGCIL [including its special purpose vehicles (SPVs)] in the overall collection of transmission charges of the pool has declined from around 93% in FY2013 to around 87% Q1FY2020.





Out of the ISTS projects already awarded, around thirteen projects having an aggregate annual levelised tariff of around Rs.2,500 crore are scheduled for commissioning during FY2020-FY2022. Out of these, three projects are SPVs of PGCIL with annual levelised tariff aggregating to around Rs.750 crore and hence, the additional revenue from the other private developers would increase by around Rs.1,750

crore during the even period. This would further reduce PGCIL’s share in the transmission pool but PGCIL would continue to hold a majority share of over 80% over the medium term which would also be beneficial, as the pool PGCIL has high bargaining power against the DIC.

High predictability of cash flows with high collection efficiency and low receivable days

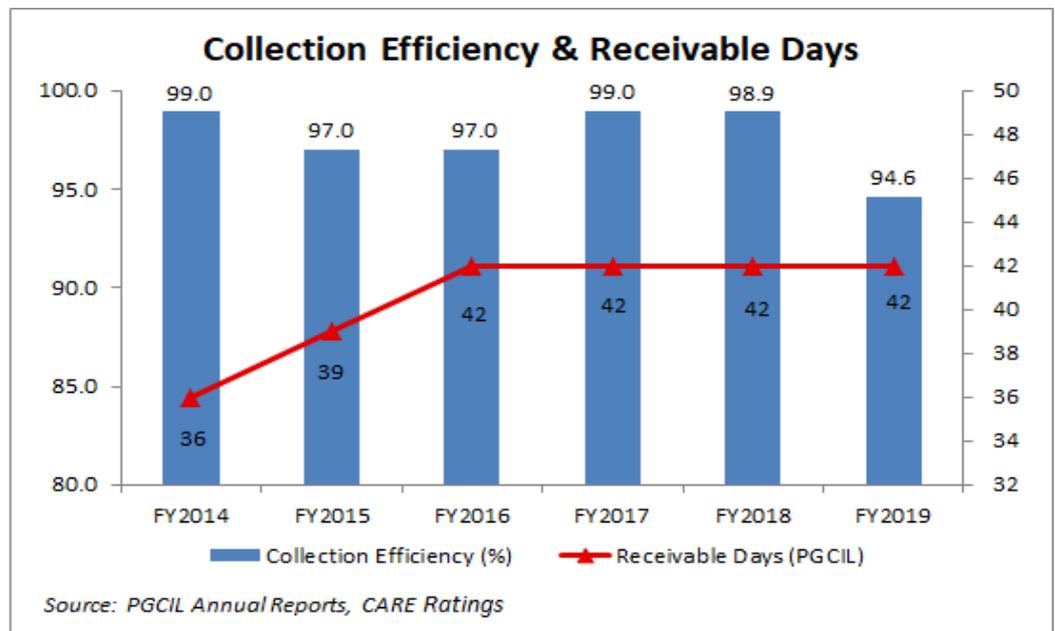
The pool which is managed by PGCIL has witnessed high collection efficiency of around 98-99% since FY2014. In FY2019, the collection efficiency of the pool dipped to around 95% and further to around 91% in Q1FY2020 in view of difficulty in realization of payments from states and also due to on-going dispute in some cases, relinquishment of long term access (LTA) by the defaulting DICs, mostly stalled generators who did not complete their projects.

As per RPS, if any DIC relinquishes or PGCIL cancels the LTA or in case the DIC defaults or does not open the payment security LC, the power gets allocated to the other participants. But from the date the project is commissioned and RPS is exercised, there is a short period during which PGCIL has to bill to that DIC which leads to lower collection efficiency.

Also, as per the latest tariff regulations issued by CERC for

FY2020 to FY2024, CERC has brought down the permitted receivables days from sixty days to forty five days which is expected to improve the collection efficiency and receivable days of the pool going forward.

PGCIL with around 87% of the total revenue of the pool is also a good representation of the likely receivable days of other ISTS licensees. The receivable days of PGCIL have remained stable at around forty days for the past six years. This



receivables period of PGCIL is in line with the receivable days assumed by the project developers and operational ISTS licensees rated by CARE indicating a high degree of predictability of the cash flows.

Recovery of dues through regulation of power supply (RPS) and curtailment of short term open access (STOA)

Since July 2011, RPS supply has been resorted to in case of many defaulting DICs. In most of the cases, the RPS has been withdrawn on realization of dues or receipt of commitments from DICs to pay in instalments. Aggregate dues of around Rs.1,112 crore have been realised through RPS and around Rs.141 crore through encashment of LC over two years.

Further, notices for RPS, including notices for STOA curtailment, have been issued to some DICs in the past and dues of around Rs.971 crore have been realised and Rs.52 crore through encashment of LCs.

Regulation of Power Supply

RPS involves regulating the power supply of the defaulting DICs through which the allocated power of these DICs from central generating stations is curtailed. As an effect the defaulting DIC has to purchase, possibly costlier power, in the open market. Such regulated power available is sold in the open market and dues are recovered. This forces DICs to clear dues to enable withdrawal of regulation of power supply.

Strength of PoC reflects in credit rating of transmission project/entities

Name of the Entity	Ratings
Power Grid Corporation of India Limited	CARE AAA; Stable / CARE A1+
Adani Transmission Limited (ATL)#	CARE AA+; Stable / CARE A1+
Chhattisgarh-WR Transmission Ltd.	CARE A+; Positive
Sipat Transmission Ltd.	CARE A+; Positive
Fatehgarh Bhadla Transmission Ltd.	CARE A-; Stable / CARE A2+
Darbhangha Motihari Transmission Company Limited	CARE AAA (SO); Stable
NRSS XXXI(B) Transmission Limited	CARE AAA (SO); Stable
Alipurduar Transmission Ltd.	CARE A-; Stable
Kohima-Mariani Transmission Ltd.	CARE A-; Stable

Out of 20 transmission projects, 9 projects are ISTS licensees

Financing transactions reflective of high investors' confidence

Due to the above strengths of the structure, high predictability of the cash flows, low variation in O&M expenses, these projects are more appealing to the long term equity / debt investors. Hence, despite the relatively short track record of the structure there have been many financing transactions.

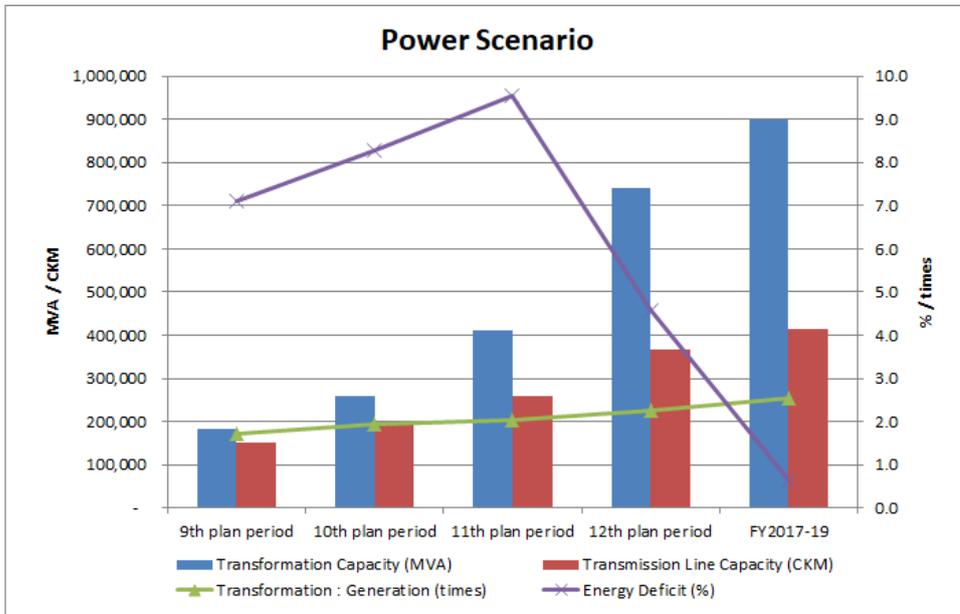
- i) In FY2017, Adani Transmission Limited refinanced the debt raised under its two wholly-owned operational subsidiaries by way of long term non-convertible debentures (NCD) issuances, Masala Bond and Dollar Bond issuances aggregating to around ~Rs.8,500 crore.
- ii) Sterlite Power Grid Ventures Limited (SPGVL; rated CARE A1+), which has experience of constructing and maintaining twelve transmission projects across India sponsored the India Grid Trust (IndiGrid) in October 2016. Till June 30, 2019, IndiGrid has acquired eight operational projects of which seven are from SPGVL and one from third party. Till June 30, 2019, it raised a total equity capital of Rs.5,352 crore (Rs.2,838 crore initial and Rs.2,514 through preferential allotment) and raised a total debt of around Rs.6,500 crore.

-
- iii) In July 2019, Kalpataru Power Transmission Limited (KPTL; rated CARE AA; Stable / CARE A1+) entered into a binding agreement with CLP India Private Limited, one of the large foreign investors in the Indian power sector, for selling its stake in three transmission projects housed in its subsidiaries at an enterprise value of Rs.3,275 crore.
 - iv) In September 2019, ATL announced that it is in the process of raising debt of USD 750 million for refinancing the debt raised in its operational projects through thirty-year dollar-backed senior secured notes under a co-obligor structure.

Annexure

Reforms in transmission segment

The transmission systems that at present operate in place in India consist of Inter-State Transmission System (ISTS) and Intra-State Transmission System (Intra-STs). The transmission sector was earlier largely managed and controlled by the government owned entities. The Intra-STs projects were under the purview of respective state governments through state transmission utilities (STUs), whereas ISTS projects were under the purview of CTU i.e. PGCIL.



However, there was subdued capacity addition in the transmission infrastructure in India leading to significant transmission bottlenecks. Accordingly, need for private sector participation was felt. Therefore, the Ministry of Power (MoP), Government of India (GoI) took certain initiatives to facilitate private sector participation in the transmission segment by bringing about certain enabling changes in the legal framework. It enacted EA 2003 which paved the way for private sector participation in the transmission segment. The EA 2003

has provisions for grant of transmission licenses for the construction, maintenance and operation of transmission lines as well as substations to the private players by the CERC as well as State Electricity Regulatory Commissions (SERCs). The above reforms led to tremendous growth in transmission infrastructure in India in terms of increase in the transmission line length and transformation capacity as shown in the accompanying chart.

From cost plus regime to fixed cost ‘Tariff Based Competitive Bidding’

Earlier the transmission projects were awarded under cost plus fixed return on equity (RoE) of 15.50% model. However, Section 63 of the EA 2003 encouraged competition and established competitive bidding for certain transmission projects under the TBCB scheme.

Subsequently, the National Tariff Policy (NTP) 2006 was notified by the Central Government which laid down the guidelines under the TBCB scheme.

Under TBCB, the bidders are required to quote year-wise fixed tariff for the entire tenor of the transmission service agreement for establishing transmission lines and its components. The bidder which quotes the lowest levelised tariff is awarded the project who is then required to acquire the SPV incorporated by the bid process coordinator (BPC) like for example PFC Consulting Limited (which has awarded nineteen of the forty one projects awarded under TBCB) and REC Transmission Projects Company Limited (which has awarded the balance twenty two projects). Once the process of acquisition is complete, the SPV approaches CERC for obtaining transmission license and subsequently enters into transmission service agreements (TSAs) with the long term transmission customers (LTTCS viz. DICs).

Since the introduction of TBCB, around forty one ISTS projects have been awarded with an estimated project cost of around Rs.60,500 crore and a levelised tariff of around 11% of the project cost as compared to a levelised tariff of around 13-14% for the cost-plus projects. Despite the relatively lower tariff as compared to the cost plus projects, these

projects have witnessed higher private sector participation and favourable lenders' appraisal mainly due to the inherent strengths of the model which offers highly predictable cash flows and significantly mitigates the counter-party risk. Share of major players in the transmission segment in the forty one ISTS projects awarded under TCB scheme are as under.

Name of the Sponsor	No. of Projects	No. of Projects (%)	Project Cost (Rs. Cr.)	Project Cost (%)
Power Grid Corp. of India Ltd.	12	29	22,500	37
Sterlite Power Transmission Ltd.	12	29	20,100	33
Adani Transmission Ltd.	5	12	3,600	6
Essel Infraprojects Ltd.	4	10	6,300	10
Reliance Power Transmission Ltd.	2	5	4,100	7
Kalpataru Power Transmission Ltd.	2	5	1,800	3
Others	4	10	2,100	3
Total	41	100	60,500	100

Source: Central Electricity Authority (CEA), REC, PFC