

Overview of the framework

Need for a framework

Until recently, transmission of electricity was confined to public sector utilities alone. As a result, investment in capacity addition was funded mainly from budgetary allocations, internal accruals of public sector undertakings and external borrowings. To attract private sector participation in the transmission sector, guidelines were issued by the Central Government in January 2000, envisaging two routes viz. Joint Venture (JV) route and Independent Private Transmission Company (IPTC) route. However, the actual inflows of private investment were negligible. While some progress has since been made in attracting private participation in regional transmission systems, the states have not been able to attract any private investment so far, except in stray cases. Given the need for large capacity addition, there seems no option but to expand the role of private investment, especially in inter-state/ intra-state transmission of electricity.

Need for private investment

Infrastructure projects across sectors have been witnessing a significant interest from both domestic as well as foreign investors following the policy initiatives taken by the Government of India to promote Public Private Partnerships (PPP) in building and operating such projects. However, the actual inflow of investment has been less than expected, and future prospects would depend on adoption of a comprehensive policy and regulatory framework necessary for addressing the complexities of PPP and for balancing the interests of users and investors. Moreover, transformation of rules will have to be accompanied by a change in the institutional mindset.

For building and operating transmission systems through PPP, a precise policy and regulatory framework is being spelt out in this Model Transmission Agreement (MTA). This framework addresses the issues which are typically important for limited recourse financing of infrastructure projects, such as mitigation and unbundling of risks; allocation of risks and rewards; symmetry of obligations between the principal parties; precision and predictability of costs and obligations; reduction of transaction costs; force majeure; and termination. It also addresses other important concerns such as user protection, independent monitoring, dispute resolution and financial support from the Government.

A comprehensive framework is a pre-requisite for PPP

The MTA provides the basis for optimal utilisation of resources on the one hand and adoption of international best practices on the other. The objective is to secure value for public money while providing efficient and cost-effective services to the users.

Elements of financial viability

The three critical elements that determine the financial viability of transmission projects are the concession period, unitary charge and capital costs. The concession period for a transmission system is required to be fixed in accordance with the provisions of the Electricity Act 2003 which stipulates a maximum period of 25 years for a transmission licence. However, given the life of a typical transmission system, a provision has been kept for a further period of 10 years, subject to regulatory approvals. This timeframe should enable a robust project structure. The MTA also provides for determining the unitary charge broadly in line with the prevailing transmission tariffs.

**Viability Gap
Funding is
necessary**

Since two of the three parameters stated above would be virtually pre-determined, capital cost is the variable that will determine the financial viability of a transmission system. Adoption of cost-effective specifications would, therefore, be essential for reducing capital costs in order to improve viability. Yet the project may not attain the financial viability necessary for servicing the capital and operational costs. As a result, bidders may require a capital grant/subsidy from the project authority (the “**Authority**”) in order to reduce their capital investment for arriving at an acceptable rate of return. Where bidders do not seek any grant and are instead willing to make a financial offer to the Authority, they will be free to quote a premium in the form of a reduction in the specified unitary charge.

Unitary Charge

The MTA suggests a methodology for determining the unitary charge based on the extant transmission tariffs, proposed capacity of the transmission system, total project costs and the estimated cost of the associated upstream and downstream transmission capacity. The MTA suggests that the unitary charge should not be fixed at a level lower than 75 per cent of the amount likely to be required for servicing the project costs.

**Unitary charge
should be
determined
with care and
precision.**

The MTA provides for an annual reduction in the unitary charge to account for the depreciated value of the project assets. It has been stipulated that the unitary charge subsequent to the first year of operation may be determined by reducing the same to the extent of a pre-determined percentage in the band of 1 to 2 per cent per annum.

The MTA provides for indexation of the unitary charge to the extent of 30 per cent thereof linked to Price Index. Since repayment of debt would be substantially neutral to inflation and the O&M expenses for the transmission assets would be comparatively low, the said indexation of 30 per cent is considered adequate. A higher level of indexation is not favoured, as that would require the users to pay more when they should be receiving the benefit of a depreciated asset. A higher indexation would also add to

**Indexation to
Price Index**

uncertainties in the projections relating to returns on investment.

Creation of additional capacity

As an added incentive, the MTA allows the Concessionaire to create additional capacity and appropriate the transmission tariff from the users of such capacity. It also allows the Concessionaire to treat the unutilised capacity of the Authority as the additional capacity. The revenues from additional capacity are to be shared between the Concessionaire and the Authority in the specified proportion.

Additional capacity for improving viability

Real estate development

Capital subsidies required for meeting the likely gap in the viability of a transmission project may be reduced by providing avenues for real estate development to the extent possible. Provision for real estate development by the Concessionaire has, therefore, been kept in the MTA. This would enable the Concessionaire to grant sub-licences for use of the real estate with a view to ensuring optimal utilisation of project assets. The MTA provides that 25 per cent of the revenue from real estate development and other businesses like advertisement would be shared with the Authority.

Real estate can cross-subsidise

Technical parameters

Unlike the normal practice of focussing on construction specifications, the technical parameters proposed in the MTA are based mainly on output specifications, as these have a direct bearing on the level of service for users. Only the core requirements of design, construction, operation and maintenance of the transmission system have been specified, leaving enough room for the Concessionaire to innovate and add value.

Technical parameters for level of service

In sum, the framework focuses on the ‘what’ rather than the ‘how’ in relation to the delivery of services by the Concessionaire. This would provide the requisite flexibility to the Concessionaire in evolving and adopting cost-effective designs without compromising on the quality of service for users. Cost efficiencies would occur because the shift to output-based specifications would provide the private sector with a greater opportunity to innovate and optimise on designs in a way normally denied to it under conventional input-based procurement specifications.

Performance standards

The Concessionaire would not only procure the construction of the transmission system, it would also provide a service in the form of transmission of electricity. The efficiency of the Concessionaire would normally reflect in the quality of service provided to the users. The MTA,

Performance standards to be enforced

therefore, identifies the key performance indicators relating to operation of the transmission system and stipulates penalties for failure to achieve the requisite levels of performance.

In particular, the Concessionaire is required to ensure the availability of system capacity at the pre-determined normative levels. The number of forced outages in a year have been capped in order to ensure system reliability. Transmission losses of the transformers forming part of the transmission system must also remain within the specified normative levels.

The MTA requires the Concessionaire to declare the availability of the transmission system. Normally, the transmission system will be deemed as available to the extent of the specified system capacity. In the event of any defect or deficiency, the Concessionaire must declare the actual availability so that its unitary charge is computed accordingly. The MTA stipulates stiff penalties in case of mis-declaration by the Concessionaire.

For monitoring the key performance indicators, monthly status reports and inspections of the Independent Engineer have been prescribed. The concessionaire is also required to maintain the requisite ISO certifications for the transmission system.

Selection of Concessionaire

Selection of the Concessionaire will be based on open competitive bidding. All project parameters such as the concession period, unitary charge, technical parameters and performance standards are to be clearly stated upfront. Based on these terms, the short-listed bidders will be required to specify their financial offer without any conditions. The bidder who seeks the lowest grant or offers the highest premium, as the case may be, should win the contract.

Competitive bidding on single parameter will be the norm

Risk allocation

As an underlying principle, risks have been allocated to the parties that are best suited to manage them. Project risks have, therefore, been assigned to the private sector to the extent it is capable of managing them. The transfer of these risks and responsibilities to the private sector would increase the scope of innovation leading to efficiencies in costs and services.

Risk allocation and mitigation are critical

The commercial and technical risks relating to construction, operation and maintenance are being allocated to the Concessionaire, as it would be best suited to manage them. On the other hand, all direct and indirect political risks are being assigned to the Authority.

The MTA provides for extension of the concession period in order to compensate the Concessionaire for specified events. In case the stipulated

Extension of concession period

extension of concession period cannot be granted, the MTA provides for a pre-determined monetary compensation to be paid to the Concessionaire.

Financial close

Unlike other agreements for private infrastructure projects which neither define a time-frame for achieving financial close, nor specify the penal consequences for failure to do so, the MTA stipulates a time limit of 180 days for achieving financial close (extendable for another 120 days on payment of a penalty), failing which the bid security shall be forfeited. By prevalent standards, this is a tight schedule, which is achievable only if all the parameters are well defined and the requisite preparatory work has been undertaken.

Project implementation must commence as per agreed timeframe

The MTA represents the comprehensive framework necessary for enabling financial close within the stipulated period. Adherence to such time schedules will usher in a significant reduction in costs besides ensuring timely provision of the needed infrastructure. This approach would also address the typical problem of infrastructure projects not achieving financial close for long periods.

Construction of the transmission system

Handing over possession of the land required for construction of substations and obtaining of environmental clearances are being proposed as conditions precedent to be satisfied by the Authority before financial close. Procurement of a transmission license and other applicable permits has been proposed as a conditions precedent to be satisfied by the Concessionaire. In order to facilitate the process, the Authority would provide reasonable support and assistance to the Concessionaire in procuring the aforesaid licence and permits.

For constructing and operating a transmission system, the right of way for the transmission lines is of critical importance. The MTA requires the Concessionaire to procure and maintain such right of way in accordance with the provisions of the Electricity Act. The Authority would provide the necessary authorisation and documents to the Concessionaire for procuring the same. The costs of procuring and maintaining the right of way shall be borne by the Concessionaire as the same have been included in the total project cost.

The MTA defines the scope of the project with precision in order to enable the Concessionaire to determine its costs and obligations. Additional works may be undertaken within a specified limit, but only if the entire cost thereof is borne by the Authority.

Before commencing the commercial operation of the transmission system, the Concessionaire will be required to subject it to specified tests for ensuring compliance with the specifications relating to safety and quality of service for the users.

Service quality and safety must be ensured

Operation and maintenance

Operation and maintenance of the transmission system is proposed to be governed by strict standards with a view to ensuring a high level of service for the users. Any violations of these standards would attract stiff penalties. In sum, operational performance would be the most important test of service delivery.

Maintenance standards will be enforced strictly

The MTA provides for an elaborate and dynamic mechanism to evaluate and upgrade the safety requirements on a continuing basis. It includes safety certification by the designated Electrical Inspector prior to COD and provides for reviews at regular intervals by qualified experts.

Right of substitution

The project assets may not constitute adequate security for lenders. It is the project revenue streams that constitute the mainstay of their security. Lenders would, therefore, require assignment and substitution rights so that the concession can be transferred to another company in the event of failure of the Concessionaire to operate the project successfully. The MTA accordingly provides for such substitution rights.

Lenders will have the right of substitution

Force majeure

The MTA contains the requisite provisions for dealing with force majeure events. In particular, it affords protection to the Concessionaire against political actions that may have a material adverse effect on the project.

Concessionaire will be protected against political actions

Termination

In the event of termination, the MTA provides for a compulsory buy-out by the Authority, as neither the Concessionaire nor the lenders can use the transmission system in any other manner for recovering their investments. Termination payments have been quantified precisely as compared to the complex formulations in most concession agreements relating to infrastructure projects. Political force majeure and defaults by the Authority would qualify for adequate compensatory payments to the Concessionaire and will thus guard against any discriminatory or arbitrary action by the Authority. Further, the project debt would be fully protected by the Authority in the event of termination, except for two situations, namely, (a)

Pre-determined termination payments should provide predictability

when termination occurs as a result of default by the Concessionaire, 90 per cent of the debt will be protected, and (b) in the event of non-political force majeure such as Act of God (normally covered by insurance), 90 per cent of the debt not covered by insurance will be protected.

Upon expiry of the specified concession period of 25 years, the Concessionaire would be entitled to a termination payment equal to 40 times the monthly unitary charge. However, the Concessionaire would have the right to seek an extension of 10 years in the concession period and in such an event, no termination payment shall be due and payable after expiry of the extended period.

Monitoring and supervision

Day-to-day interaction between the Authority and the Concessionaire has been kept to the bare minimum by following a ‘hands-off’ approach, and the Authority shall be entitled to intervene only in the event of a material default. Checks and balances have, however, been provided for ensuring full accountability of the Concessionaire.

Independent supervision is essential

Monitoring and supervision of construction, operation and maintenance is proposed to be undertaken through an Independent Engineer (a qualified firm) that will be selected by the Authority through a transparent process. Its independence would provide added comfort to all stakeholders, besides improving the efficiency of project implementation. The MTA provides for a transparent procedure to ensure selection of well-reputed statutory auditors, as they would play a critical role in ensuring financial discipline. As a safeguard, the MTA also provides for appointment of additional or concurrent auditors.

To provide enhanced security to the lenders and greater stability to the project operations, all financial inflows and outflows of the project are proposed to be routed through an escrow account.

Revenue shortfall loan

By way of comfort to the lenders, loan assistance from the Authority has been stipulated for supporting debt service obligations in the event of a revenue shortfall resulting from political force majeure or default by the Authority.

Support and guarantees by the Government are essential

Manual of Specifications & Standards

The accountability for providing a safe and reliable transmission system ultimately rests with the Authority and the MTA therefore refers to a Manual of Specification and Standards that the Concessionaire must conform to. The Manual, by reference, forms an integral part of the

concession agreement for the specific project and shall be binding on the Concessionaire. The Manual is a key document for safeguarding user interest and must, therefore, be prepared with great care and caution. The MTA stipulates that only the basic requirements of design and construction shall be laid down in the Manual with reference to the Grid Code and applicable laws, and greater emphasis shall be placed on specifying the output specifications that have a direct bearing on the level and quality of service for users of the transmission system.

Miscellaneous

The MTA addresses other important issues such as dispute resolution, suspension of rights, change in law, insurance, defects liability, indemnity, redressal of public grievances and disclosure of project documents. It incorporates the best practices that would enable a fair and transparent framework for private participation.

**An effective
dispute resolution
mechanism is
critical**

Conclusion

Together with the Schedules, the proposed contractual framework addresses the issues that are likely to arise in financing of transmission system projects on DBFOT basis. The proposed regulatory and policy framework contained in the MTA is critical for attracting private investment with the concomitant efficiencies and lower costs, necessary for accelerating growth.

**Private
participation should
improve efficiencies
and reduce costs**