# India

**Neeraj Menon and Akshita Amit**
Trilegal

## Policy and law

1 What is the government policy and legislative framework for the electricity sector?

### Constitutional framework

The seventh schedule of the Constitution of India sets out the subjects on which parliament and the state legislatures can frame legislation, and demarcates such subjects in three lists: the Union List, State List and the Concurrent List. While parliament and the state legislatures legislate exclusively upon subjects mentioned in the Union List and the State List respectively, the subjects mentioned in the Concurrent List can be legislated upon by both. However, in case of a conflict between the laws made by the state legislatures and parliament on the same subject matter under the Concurrent List, the state legislation will be void to the extent it is inconsistent with legislation made by parliament. Electricity is a subject mentioned in the Concurrent List.

### Legislative framework

The Electricity Act 2003 (the Electricity Act) is the parent legislation governing the electricity sector in India (other than nuclear energy, which is governed by the Atomic Energy Act 1962). The Electricity Act consolidated various laws governing the electricity sector in India and introduced key reforms such as:

- restructuring of state electricity boards into separate entities governing generation, transmission and distribution activities;
- delicensing most generation activities, recognising power trading as a distinct activity and promoting captive generation;
- introducing the requirement for providing non-discriminatory open access;
- constituting electricity regulatory commissions at state and central levels (ie, state electricity regulatory commissions (SERCs) and the Central Electricity Regulatory Commission (CERC) respectively), and an appellate tribunal (ie, the Appellate Tribunal for Electricity (APTEL), among other things) to hear appeals against decisions of the SERCs and CERC;
- recognising the Central Electricity Authority (CEA) as the technical advisory body to the government of India and the electricity regulatory commissions; and
- promoting renewable energy projects.

In accordance with the provisions of the Electricity Act, the government of India, in consultation with the CEA and state governments, has prepared the National Electricity Policy 2005 (NEP) and the Tariff Policy 2016 (Tariff Policy) for the development of the power sector, based on optimal utilisation of natural resources. NITI Aayog, government of India's think-tank, released a draft National Energy Policy in 2017. The Policy, which is yet to be adopted, recommends a framework to bring about an overarching energy efficiency policy in India by forging coordination between different ministries dealing with electricity. The Policy proposes actions for better access to affordable electricity, improved energy security and independence, greater sustainability and economic growth by 2040 (see questions 22–25).

In May 2018, the Ministry of Power (the Power Ministry), issued draft amendments to the Tariff Policy. Some of the key amendments proposed include stricter operating norms with certain restrictions on aggregate technical and commercial losses, adoption of direct benefit transfer for subsidy payments, moving electricity consumers from a post-paid to a pre-paid metering system, prescribing mandatory debt-to-equity ratio for financing the capital cost of future projects, allowing for change in law relief on introduction of any charges and surcharges after award of bids, stricter implementation of renewable purchase obligations (RPOs), providing a service standard framework for distribution of electricity, identifying clear categories of consumers for tariff fixation, and reduction of cross subsidy charges.

The Ministry of Power has released a draft of an amendment to the Electricity Act (Proposed Electricity Act Amendments) which has not been notified yet. Some key features of the proposed amendment include creation of a direct transfer mechanism for disbursement of subsidy to consumers, provisions enabling transition of consumers from one distribution and supply licensee to another, and obligations relating to continuous supply of power (see questions 2, 19 and 24).

## Organisation of the market

2 What is the organisational structure for the generation, transmission, distribution and sale of power?

The Electricity Act restructured the electricity sector into separate generation, distribution and transmission sectors. Additionally, there exists a separate market for electricity trading that is undertaken by companies with a trading licence or at power exchanges.

### Generation

Generation of electricity (including captive generation) is a delicensed activity (other than for hydro projects exceeding the notified capital cost, for which an approval of the CEA is required). Private entities are permitted to set up power stations using any type of fuel or power source (such as coal, gas, wind, solar and biomass) except for nuclear power projects, which may be undertaken only by a government of India entity or a government company (ie, where the government holds a minimum of 51 per cent of the shareholding).

#### Conventional power

Power generation activities in India are dominated by long-term power offtake purchase agreements. For thermal power projects (coal and gas) and hydro projects, long-term power is procured either through a negotiated route or a competitive bidding route. Under the negotiated route, a distribution company's power procurement tariff is determined by the relevant electricity regulatory commission, upon considering various

factors such as return on equity, interest on loans and working capital, depreciation, operation and maintenance expenses and allowances for any renovation and modernisation. Under the competitive bidding route, the tariff discovered through a competitive bidding process is adopted by the relevant electricity regulatory commission and procurement is governed by standard bid documents including power purchase agreements, which are issued by the Power Ministry. While the statutory option to procure electricity under the negotiated route still exists, the Power Ministry has directed state governments and distribution companies to procure power only under the competitive bidding route (except that negotiated route may be used for hydropower projects until the end of 2022 and waste to energy projects).

Prior to 2013, all tariff-based competitive bidding for thermal power projects was done through standard bidding documents, which provided for two modes for procurement (ie, Case 1 and Case 2). Under Case 1, all project assets and inputs (such as land, fuel, water, etc) and relevant statutory approvals required for the construction and operation of, and the supply of power from, the power station had to be arranged by the power producer, while the same had to be arranged by the distribution licensee in Case 2. While these standard bidding documents provided a comprehensive framework for procurement of electricity, they did not address key concerns such as shortage of fuel availability in the domestic market, indexation of fuel prices to market rates, uncertainty in obtaining key approvals such as environmental clearance, delays in land acquisition and foreign exchange variations.

In order to address the manifold concerns of all stakeholders, in 2013 the Power Ministry issued revised competitive bidding guidelines and standard bidding documents that provided for two modes of bidding and supply of electricity (the Revised standard bidding documents (SBDs)):

- design-build-finance-own-operate model (DBFOO) (on the lines of Case 1); and
- design-build-finance-operate-transfer model (DBFOT) (on the lines of Case 2).

The Revised SBDs prescribe higher normative availability, single-variable bidding, restrictions on usage of fuel procured at subsidised rates from government suppliers, pass-through of variable charges (including cost of fuel) to consumers, detailed construction, operation and maintenance standards, appointment of a mandatory independent engineer for each project and also provision for the cost of imported fuel to be benchmarked at actuals and linked to prevailing prices on international indices.

Following the dismal industry response to the competitive bidding process for allotment of ultra-mega power projects (UMPPs, ie, coal-based projects of at least 4GW capacity) that were proposed on the DBFOT model, and general criticism from developers and lenders with respect to various aspects of the DBFOT model, the Power Ministry issued draft guidelines and standard bidding documents for UMPPs. The draft bidding documents for UMPPs (which are based on domestic captive coal blocks) contemplate a build, own and operate structure where the government provides part of the land for the power plant and the captive coal block on a long-term lease to the selected bidder and the selected bidder is required to build and operate a power plant and sell the power generated under a long-term power purchase agreement with state distribution licensees. The draft proposes that upon expiry of the power purchase agreement term the power generator will cease to have any rights over the coal block but will continue to have leasehold rights over the power plant land. The Power Ministry has not clarified the rationale of this approach and hence this structure appears to be fraught with key bankability issues. A key lender concern is the obligation on the developer to acquire the remaining part of the land (ie, the land required in addition to the part of the land provided by the government) required for setting up the power plant and captive coal block.

In addition to long-term power procurement guidelines, the Power Ministry has introduced guidelines (and revised standard bidding documents) for medium-term power procurement (ie, one year to five years) of electricity from coal, gas or hydro-based power stations on a finance, own and operate basis, and power traders and distribution licensees having back-to-back arrangements with power generators. As per media reports, the Power Ministry is in the process of releasing new norms for medium-term (five to seven years) power purchase agreements with an aim to revive commissioned stressed coal-based plants. Further, the Power Ministry has introduced a pilot scheme for the procurement of aggregate power of 2500MW for three years from commissioned coal-based generating companies that are not party to a power purchase agreement. The Power Ministry has also issued revised guidelines for the procurement of power on a short-term basis (ie, for a period of more than one day up to one year). The revised guidelines introduce tariff determination through an e-auction with an overall aim of reducing power procurement costs in the short term for distribution licensees. Additionally, the Power Ministry is also in the process of finalising new bidding documents for short-term power procurement (one day to one year).

### Non-conventional power

For renewable energy projects, power is typically procured through contracts entered into with state utilities under specific state policies at a regulator determined feed-in tariff or at a tariff discovered through competitive bidding depending on the state or central policy. All distribution utilities, captive-power users and open-access consumers are mandated to procure a prescribed quantum of electricity generated from renewable energy sources (ie, RPO). The Tariff Policy sets out several measures to promote renewable energy development in the country, including: an increase in the solar RPO to 8 per cent by 2022; procurement of power from renewable energy sources by distribution licensees through competitive bidding; and applicability of RPOs on co-generation power plants. In order to further the objective of renewable energy development, the relevant electricity regulatory commissions have introduced market-based policy instruments (referred to as renewable energy certificates (REC)), which the renewable energy producers can get if they do not opt for the preferential feed-in tariff offered by distribution utilities. To incentivise distribution licensees to procure renewable energy, all distribution licensees procuring renewable power above their RPOs are also eligible for obtaining RECs. Additionally, the Supreme Court of India (Supreme Court) has also upheld the imposition of RPO on captive power generators and open-access consumers on the ground that there is a need to promote renewable energy. On the other hand, despite electricity regulatory commissions having the authority to enforce RPOs, there is repeated failure by the state distribution utilities to comply with their RPO requirements, and accordingly there is abundant supply of RECs in the market, with few takers. In this regard, penalties for non-compliance with RPOs are proposed to be increased under the Proposed Electricity Act Amendments and the proposed Renewable Energy Act (RE Act). Finally, the Ministry of New and Renewable Energy (MNRE) recently constituted a RPO compliance cell to handle all RPO compliance issues across states and to publish monthly reports on compliance, among other activities.

### Captive power plants

Another mode of setting up generation facilities is through captive power plants where the captive power user has to hold a minimum of 26 per cent of the ownership of such power plant and should consume at least 51 per cent of the annual aggregate electricity generated by such a power plant. The Power Ministry, on 22 May 2018, issued draft

amendments to the electricity laws governing captive generating plants (which are yet to be notified). The proposed amendments aim at reinforcing the intent of the legislature by ensuring that there is actual ownership in the company developing and operating the captive power project and consuming the electricity generated by the project. To this end, the proposed amendments to the Electricity Rules, 2005 prescribe an ownership stake of at least 26 per cent of the equity share capital with voting rights (excluding equity shares with differential voting rights and preference shares), mandate a maximum of two shareholding pattern changes per year and allow for a variation in consumption in proportion to their ownership shares not exceeding 15 per cent and in case of solar and wind power plants not exceeding 30 per cent. Additionally, the CERC has amended its regulations, to disqualify renewable energy generators (including captive generators) – to the extent of their self-consumption and selling of power on open access while availing promotional wheeling, transmission, cross-subsidy or banking charges – from obtaining the benefit of RECs. The amendment aims to reduce the unsold inventory of RECs, of which a major portion is contributed by captive generators. The CERC was of the view that developers under the third-party model were able to leverage the concessional benefits, while participating under the REC framework, and has therefore amended the regulations in order to prevent developers from doing so. However, the CERC has given renewable energy generators (including captive generators) the option of availing the benefit of RECs three years after they forgo the benefits of concessional transmission or wheeling charges or the banking facility benefits or both.

**Transmission**

Transmission of electricity in India is a licensed activity and transmission systems are divided into interstate and intra-state transmission systems. The interstate transmission system is mainly owned and operated by Power Grid Corporation of India Limited, a government of India-owned company, and the intra-state transmission systems are owned and maintained by state transmission utilities.

Transmission projects may be undertaken for developing new transmission systems or for strengthening the existing transmission system (which typically include investments in substations along with transmission lines for augmenting the capacity of the existing transmission system). In a manner similar to generation projects, such projects may be implemented under two modes, namely the negotiated route (where the transmission tariff is determined by the relevant electricity regulatory commission) and the competitive bidding route (where the transmission tariff is discovered through competitive bidding under standard bidding documents). For interstate transmission projects, the Tariff Policy states that while all future interstate transmission projects should ordinarily be developed through competitive bidding, the central government may give an exemption for certain projects that are of strategic importance or technical upgrading and where works are required to be done to cater to an urgent situation on a case-to-case basis. For intra-state transmission projects involving a project cost beyond a certain threshold, which will be determined by the respective SERC, such projects are to be developed only through the competitive bidding route.

**Distribution**

At present, the sale and distribution of power to consumers is undertaken under a single licence and once the distribution licence has been issued, the licensee does not require a separate licence for the sale of power. However, the Proposed Electricity Act Amendments provide for segregation of supply and distribution activities by allowing multiple suppliers of electricity to use the distribution network provided by a separate entity, each requiring a separate licence. It is proposed that distribution licensees give up all supply related functions. Furthermore, existing power procurement arrangements of distribution licensees will vest in intermediary companies, which will be specially created for this purpose.

**Trading**

Electricity trading is a distinct recognised activity for which a separate licence is required (except for distribution licensees) from the CERC or a SERC (for interstate and intra-state trading respectively). Trading may involve purchase of electricity from generating stations or distribution licensees for sale to end consumers.

## REGULATION OF ELECTRICITY UTILITIES – POWER GENERATION

**Authorisation to construct and operate generation facilities**

3 What authorisations are required to construct and operate generation facilities?

As mentioned earlier, generation is a delicensed subject; however, construction, operation and maintenance of a generation facility require permits, consents and approvals under other laws relating to land acquisition, environmental clearance, corporate and labour compliances, approvals for use of restricted land and consent to establish and operate the power station from pollution control authorities. Further, in the case of power stations using domestic coal, the developer is required to obtain a coal linkage (which provides for assured fuel supply from the coal mines of Coal India Limited and its subsidiaries) or use coal extracted from a coal block specifically allotted to it by a government entity. If coal is used from an allotted mine, the developer is also required to obtain specific approvals (such as an environmental clearance) in relation to the coal mine. The Ministry of Environment, Forests and Climate Change, government of India (Environment Ministry), has issued a notification pursuant to which standalone coal-fired thermal power plants of all capacities are required to be supplied with, and are required to use, raw or blended or beneficiated coal with ash content not exceeding 34 per cent, on a quarterly average basis.

All power-generating stations are also required to comply with technical standards prescribed by the CEA, including those in relation to construction of power plants, safety requirements for construction, operation and maintenance. Hydropower projects above 25MW have an additional requirement to obtain a techno-economic clearance from the CEA before commencement of construction works. Similarly, a clearance is required from the Atomic Energy Regulatory Board for atomic energy based power plants.

**Grid connection policies**

4 What are the policies with respect to connection of generation to the transmission grid?

Under the Electricity Act, each transmission licensee is required to provide non-discriminatory use of transmission lines, distribution systems or associated facilities to a licensee, consumer or a person engaged in generation. Grant of connectivity and long, medium or short-term open access is governed by regulations issued by the CERC and the respective SERCs. Recently, CERC has issued amendments to regulations dealing with the interstate transmission system with the aim of planning and developing an efficient, coordinated, reliable and economical system for the smooth flow of electricity from generating stations to the load centres. The recent amendments specifically include renewable energy developers and operators of solar and wind power parks. This provides much-needed clarity on procedures to be followed by solar and wind park developers that have been involved in large-scale power projects across the country. The amendment also provides an enabling

framework for transfer of connectivity (in limited circumstances such as transfer to the parent company) granted for renewable energy projects.

An applicant is first required to obtain connectivity to the transmission network and then obtain long, medium or short-term open access, as the case may be, depending on the time period for which it requires the transmission capacity. On obtaining these approvals, an applicant can interchange power with the transmission grid.

**Alternative energy sources**

5 Does government policy or legislation encourage power generation based on alternative energy sources such as renewable energies or combined heat and power?

The regulatory environment increasingly seeks to incentivise renewable energy, with favourable tariff regimes established by SERCs. The Electricity Act, the NEP and the Tariff Policy encourage private-sector participation in renewable energy through measures such as fixing RPOs for obligated entities. While in the past a feed in tariff scheme existed, in 2017 tariff-based competitive bidding guidelines for the procurement of power were introduced for solar and wind power projects. The procurer sets a benchmark tariff above which a bid cannot be made and the bidder with the lowest tariff bid discovered through a reverse auction is selected to enter into a power purchase agreement with the procurer. These bidding guidelines have introduced several provisions to enhance attractiveness of the solar and wind bids through measures such as:

- generation compensation by the procurer to the developer in case of power evacuation constraints;
- payment security mechanism for tariff payments; and
- termination compensation in the event of procurer default.

The feed-in tariff regime continues to be applicable for solar and wind plants with capacities under 5MW and 25MW respectively. Benefits such as the continued availability of accelerated depreciation for wind power projects, and exemptions from payment of electricity duty (which are state-specific, but are typically granted by a majority of the states) are also provided to renewable power generators. Further, the Power Ministry has recently ordered that no interstate transmission charges (and losses) shall be levied on the interstate sale of power from solar and wind power projects that have been awarded through competitive bidding with a power purchase agreement for the sale of power to a distribution company and other entities for the compliance with their RPOs, provided these projects are commissioned by 31 March 2022. Having said that, unlike for conventional power generation, renewable power projects are primarily based on state-specific policies that provide incentives and policies that are not always consistent between states and developers often shop around based on what best suits their financial model and operational expertise. This is why some states have witnessed tremendous growth in the renewable energy sector compared to others.

The renewable energy sector has experienced exponential growth in the past two to three years and various government incentives (both fiscal and non-fiscal) have played critical roles in this. However, as the renewable energy sector has come of age and achieved grid parity, the government aims to gradually roll back the incentives. For instance, until now renewable energy project developers (along with other power project developers) had the benefit of a 10-year corporate tax holiday which has expired. Another instance is the exemption available to renewable energy projects from payment of transmission charges and losses for transmitting renewable energy using the interstate transmission network. Having said that, the rolling back of incentives by the government has not deterred private-sector developers in developing renewable energy projects in the country. The solar sector in particular has led the pack in India's clean-energy growth story. Solar plants can be set up under state policies or the government of India-launched National Solar Mission (NSM), which has been at the forefront of the government's renewable energy policy. Solar projects, under either the NSM or state-specific policies, are envisaged to be developed in a phased manner with a target of achieving 100GW (increased from the original target of 20GW) of installed solar capacity by 2022. Out of the total target of 100GW, the government of India intends to develop 40GW through rooftop solar projects and the remainder through ground-mounted solar projects. To achieve these targets the government of India is developing large solar parks in collaboration with the state governments and has also issued detailed guidelines for their development. The intention is to provide ring-fenced, shovel-ready land to the power developer along with providing the associated power evacuation facilities. The government of India has doubled the capacity target from 20GW to 40GW for solar projects to be set up in a solar park, to be achieved by 2021–22.

Recently, the Solar Energy Corporation of India (SECI) has floated a tender for procurement of 1,800MW of power from wind-based sources with a tariff ceiling of 2.85 rupees per unit (about US$0.04) for qualification of bidders. This follows a previously undersubscribed tender launched by SECI, through which projects of about 480MW capacity were awarded against a target of 1,200MW. While onshore wind power projects account for a substantial portion of the installed renewable capacity in India, the government of India issued the National Offshore Wind Energy Policy in September 2015 with an aim to promote the country's offshore wind energy potential and recently issued an expression of interest from suitable and experienced bidders for the development of 1GW of offshore wind energy anywhere within India's exclusive economic zone. Gujarat and the state of Tamil Nadu are estimated to have the potential to generate 106GW and 60GW of offshore wind energy respectively. The principal agency charged with the development of the sector is the National Institute of Wind Energy (NIWE). Under this policy, blocks are to be allocated through a competitive bidding route and developers are required to enter into sea bed lease agreements with NIWE. As a part of the planned off-take arrangement, NIWE or the respective state distribution utilities will sign power purchase agreements. Transmission utilities owned by the government will provide the onshore infrastructure required to evacuate power generated from these projects. Offshore power evacuation infrastructure up to the first onshore substation will have to be constructed by developers at their own cost. While the government has put in place a policy and institutional framework to support development of offshore wind energy in the country, there has not been any project development activity yet. The government of India plans to develop 5GW and 30GW of offshore wind energy by 2022 and 2030, respectively.

Additionally, in May 2018 the MNRE issued a National Wind-Solar Hybrid Policy that seeks to optimise the utilisation of infrastructure such as land and the transmission system, as there are regions in India where wind and solar energy have moderate to high potential. A wind-solar plant will be considered hybrid if the rated power capacity of either source is at least 25 per cent of the rated power capacity of the other source. The policy not only aims at the development of new wind-solar hybrid plants but at the hybridisation of existing wind and solar plants. In furtherance of this the MNRE, in May 2018, issued a scheme for setting up 2500MW of interstate transmission connected wind-solar hybrid power projects. In furtherance of the policy, SECI recently issued a tender for the development of a 160MW solar-wind hybrid power project with a battery energy storage system. While initially, the policy provided only for battery storage, it was recently expanded to include all forms of storage, such as, pumped hydro, compressed air, flywheel etc.

In the context of municipal waste-to-energy projects, while Indian cities present significant scope for growth, the industry has faced intense opposition on account of environment and health concerns.

The government of India is undertaking measures to promote waste-to-energy projects. In this context, the National Biofuels Policy was approved by the Union Cabinet in May 2018, which, among other things, promotes research and development into technology using biofuels for generation of power.

On a broader policy canvas, the government of India appears to be determined to promote and develop renewable energy and is taking several measures to fine-tune the policy and regulatory framework. In addition to the Tariff Policy, which was notified in January 2016, some of the salient proposed legislative and policy changes are:

- provisions in the Proposed Electricity Act Amendments, with specific focus on renewable energy; and
- separate legislation for renewable energy (ie, the RE Act) for addressing issues that are not dealt with under the Electricity Act.

Some of the key changes proposed to be introduced through these amendments are:

- mandatory renewable energy generation obligations;
- promotion of low-cost financing;
- grid connectivity provisions specific to renewable power;
- compliance planning by obligated entities for RPOs;
- payment security for renewable energy developers; and
- promotion of net metering.

**Climate change**

6 What impact will government policy on climate change have on the types of resources that are used to meet electricity demand and on the cost and amount of power that is consumed?

India has ratified the United Nations Framework Convention on Climate Change and the Kyoto Protocol (but with no binding obligations) to reduce its greenhouse gas emissions. Consequently, the government of India launched the National Action Plan on Climate Change (NAPCC), under which major initiatives such as the NSM have been introduced, and the Wind Energy Mission and Waste to Energy Mission are proposed. Additionally, sharing of Clean Development Mechanism benefits (between the developer and the consumer, usually a state-owned distribution utility) is present across most states. India has also ratified the Paris Agreement. The Paris Agreement requires its signatories to devise a national plan to limit global temperature rise, and as part of its plan India has set a goal of producing 40 per cent of its electricity with non-fossil fuel sources by 2030.

The government of India, under the NAPCC, formulated a National Mission for Enhanced Energy Efficiency (NMEEE), among other such policy measures. The NMEE comprises four initiatives, namely:

- Perform Achieve Trade (PAT);
- Energy Efficiency Financing Platform (EEFP);
- Market Transformation for Energy Efficiency (MTEE); and
- Framework for Energy Efficient Economic Development (FEEED).

PAT aims to reduce energy consumption in specific energy intensive industries with the issuance of tradable energy savings certificates (ESC) to those participants who achieved their saving targets. In PAT cycle I, which ended in 2015, 38,50,000 ESCs were issued. PAT cycle II commenced in 2016, and will end in 2019, and PAT cycle III commenced in 2017 and will end in 2020. In total, 737 designated consumers are participating in PAT cycles II and III.

Another measure taken by the government of India has been the Street Lighting National Programme, which aims at replacing India's 14 million conventional street lamps with smart light emitting diode (LED) variants, by 2019. This programme is implemented by the Energy Efficiency Services Limited (ESSL), a joint venture of four public service companies and set up under the Power Ministry. EESL similarly implements the Unnat Jyoti by Affordable LEDs for All (UJALA) scheme, with an aim to distribute 770 million LEDs across India by March 2019. To date, roughly 360 million such LEDs have been distributed. Both these policies are examples of the government of India's initiatives to make India energy efficient.

While the government of India has been promoting the development of India's renewable energy capacity and capability through various policy measures a recent decision by the Directorate General of Trade Remedies to impose a safeguard duty on the import of solar cells and modules from Malaysia and China is likely to adversely impact solar tariffs. A 25 per cent duty will be imposed from 30 July 2018 to 29 July 2019, followed by a 20 per cent duty from 30 July 2019 to 29 January 2020 and a final 15 per cent duty from 30 January 2020 to 29 July 2020. There have, however, been legal challenges to the imposition of the safeguard duty with two courts staying its implementation subject to the importer furnishing a bond against the same. The Ministry of Finance subsequently announced that the government will not insist on the safeguard duty payment until the courts have decided on the legality of the safeguard duty imposition. To finally resolve the matter, the Supreme Court has stayed the ban on imposition of safeguard duty on solar panels (in the context of proceedings before the Odisha High Court).

**Storage**

7 Does the regulatory framework support electricity storage including research and development of storage solutions?

Currently there is no regulatory framework governing electricity storage in India. However, in its Annual Budget in 2016 the government of India announced the launch of a new programme for energy storage. With a view to develop a regulatory framework to govern energy storage systems in India, the MNRE constituted an expert committee to propose a draft policy to establish a National Energy Storage Mission (NESM) for India and the committee recently submitted the draft policy to the MNRE, which is expected to release the draft for public feedback shortly. The NESM aims to establish a regulatory framework that promotes manufacturing and deployment of battery storage systems. Prior to this, in January 2017, the CERC issued a consultation paper setting out a broad framework for the introduction of battery energy storage systems (BESS). The consultation paper discusses models of tariff determination for multiple users of BESS, commercial viability of BESS and policy changes that may be required to deploy bulk storage facilities in the country. Further, media reports mention that the government is also working on a policy framework to introduce on-site storage integration for wind and solar power projects.

While the government of India has, in the past, floated tenders for renewable energy capacity with storage systems, most of these systems have been suspended or withdrawn for various reasons. There have been several tenders for storage-linked renewable generation capacity in various parts of the country, such as Andhra Pradesh and Karnataka, which are currently underway. The government has also launched the National Smart Grid Mission, through which it has introduced incentives such as a 30 per cent capital grant towards a project's cost, and a 100 per cent grant for select components such as training and capacity building.

**Government policy**

8 Does government policy encourage or discourage development of new nuclear power plants? How?

While the government is positive about setting up power stations based on nuclear energy (it has already installed 6,780MW of capacity from 22 operational nuclear reactors and projects with an aggregate capacity

of approximately 15,700MW are currently under construction), currently only a government of India entity or a government company (ie, where the government holds a minimum of 51 per cent of the shareholding) can own and operate a nuclear power plant. Private ownership of nuclear power generation assets is not allowed.

A major issue that had hampered private investment in other areas of nuclear power generation was the interpretation of a provision of the Civil Liability for Nuclear Damage Act 2010 (CLND Act) as mandating a civil nuclear liability clause in supply contracts, therefore dissuading foreign equipment suppliers from supplying Indian nuclear power projects. However, the government of India has clarified that while the legislation would not be amended, it is not mandatory to include a civil liability clause in the contractual arrangements between the foreign supplier and the Indian operator. This clarification has been provided as a part of responses to certain 'frequently asked questions' issued by the government of India and has therefore led to concerns that such a stance may not be legally binding. While it is highly unlikely, it remains to be seen whether the Nuclear Power Corporation of India (a government company and operator of nuclear power plants) will agree to undertake such liability. India has also ratified the Convention on Supplementary Compensation for Nuclear Damages (CSC) which has been hailed as an important step towards creating a global nuclear liability regime. It is important to note that ratification of the treaty requires national law to be in compliance with article 10 of the CSC, which states that national law may provide that an operator may have a right of recourse to the supplier only if this is expressly provided for in writing or if the nuclear incident results from an act or incident done with an intent to cause damage. However, section 17(b) of the CLND Act in India adds another instance where an operator may have recourse to the supplier and that is if the nuclear incident occurred owing to an act of the supplier, which includes supplying parts with a latent or patent defect. The government of India has also issued a clarificatory response in relation to section 17 (b) of the CLND Act stating that while the language of section 17(b) is in addition to the provisions of article 10 of the CSC, it relates to actions and matters such as conditions of service and contract. The government of India is of the view that these are in any case ordinarily a part of the contract and are not a new method of tracing liability back to the supplier. India is also a part of the limited group of countries with a Nuclear Insurance Pool, which provides insurance cover to operators of nuclear power plants and suppliers. India's nuclear insurance pool has a corpus of 15 billion rupees.

## REGULATION OF ELECTRICITY UTILITIES – TRANSMISSION

### Authorisations to construct and operate transmission networks

9 What authorisations are required to construct and operate transmission networks?

Owning and operating transmission assets requires a licence from the CERC for interstate transmission facilities and the relevant SERCs for intra-state transmission facilities. The Electricity Act allows the appropriate electricity regulatory commission to specify any general or specific conditions that a licensee must comply with. The appropriate electricity regulatory commission may, on the recommendation of the government and in the public interest, even permit any local authority, cooperative society, government institution, etc to transmit (and distribute) electricity, subject to certain terms and conditions, without a licence.

Transmission licensees also require right of way from landowners for construction of transmission lines, approvals under the Electricity Act for installation of overhead lines and installation of transmission towers, apart from other applicable clearances such as those from the Environment Ministry. Alternatively, the Electricity Act also enables a transmission licensee to place and maintain a transmission line on any immovable property, upon being authorised by the government. The government authorisation entitles the transmission licensee to enter any privately owned or occupied land without the notice or consent of the owner or occupier to carry out the works required for setting up the transmission project. The central government has issued guidelines for the payment of compensation to landowners for obtaining right of way for the construction of transmission lines. The guidelines are applicable for transmission lines of a voltage of 66kV and above. The guidelines state that compensation of an amount equal to 85 per cent of the market value of the land should be paid to land owners for the land required for construction of the tower base area. Further these guidelines also state that compensation of up to 15 per cent of the land value should be paid to land owners for the diminution in the width of a right of way corridor owing to the construction of transmission lines. In addition to the above, the licensee also needs to comply with regulations issued by the CEA and CERC in relation to grid and technical standards upon grant of the transmission licence.

### Eligibility to obtain transmission services

10 Who is eligible to obtain transmission services and what requirements must be met to obtain access?

The open access regulations issued by the relevant electricity regulatory commissions permit usage of transmission lines by any generating company, distribution licensee, any consumer with a requirement of over 1MW of electricity and electricity traders, provided they comply with the requirements of obtaining connectivity and open access to the transmission system. The regulations also cast an obligation on the transmission licensees to provide non-discriminatory access to their transmission lines upon application for such access. The applicant is required to pay transmission charges and other charges as applicable, which may include a cross-subsidy surcharge, wheeling charges and open-access charges.

### Government transmission policy

11 Are there any government measures to encourage or otherwise require the expansion of the transmission grid?

The government is looking to increase private participation to strengthen transmission networks and has introduced a string of measures such as introduction of electronic competitive bidding for transmission projects and a viability gap funding model on a PPP structure for setting up intra-state transmission networks. The interstate transmission system is mainly owned and operated by Power Grid Corporation of India Limited (PGCIL), a state-owned company, and the intra-state transmission system is owned and maintained by state transmission utilities. However, the PPP structure is increasingly being preferred by the government for setting up interstate and intra-state transmission networks.

Additionally, major steps are being taken to strengthen the transmission network such as the commissioning of India's first ultra-mega transmission project, setting up a green energy corridor project (facilitating the transmission of electricity produced through renewable energy sources) and the connection of the southern grid to the national grid, leading to synchronisation of all regional grids.

It is generally seen that impetus is specifically being given to the transmission sector through various measures including introduction of the National Smart Grid Mission to implement a smart electrical grid based on technology for automation, communication and IT systems, to monitor and control power flows from points of generation to points of consumption; setting up of a National Transmission Asset Management Centre; and creation of Power System Development Fund drawing from congestion charges, deviation settlement charges and reactive energy

charges, for primarily relieving congestion in government transmission systems of strategic importance; and renovation and modernisation of government transmission systems for relieving congestion. The government also proposed feeder separation to augment power supply to rural areas and for strengthening sub-transmission and distribution systems.

**Rates and terms for transmission services**

12 | Who determines the rates and terms for the provision of transmission services and what legal standard does that entity apply?

The rates and terms for the provision of transmission services are determined by the appropriate electricity regulatory commission (the CERC in the case of interstate transmission and the relevant SERC in the case of intra-state transmission). For transmission schemes implemented through the negotiated route, transmission charges are determined by the relevant electricity regulatory commission in line with tariff regulations issued by it, which take into account factors such as return on equity, interest on loan capital and working capital, depreciation, operation and maintenance expenses and allowance for any renovation and modernisation. Under the competitive bidding route, transmission charges discovered through a competitive bidding process are required to be adopted by the relevant electricity regulatory commission.

Once the charges for a transmission network are determined or discovered, the CERC adopts a 'point-of-connection' method for calculating charges payable by each user in the transmission system based on its actual usage and develops a transmission charge-sharing mechanism among grid constituents. The 'point-of-connection' method is, however, not adopted for intra-state transmission for entities not connected to the interstate transmission system. The CERC has amended its regulations governing sharing of transmission charges and losses, making them applicable to intra-state entities with medium-term open access or long-term access to the interstate transmission network and introducing a reliability service charge, charge for using HVDC transmission lines and provisions for misdeclaration. Further, through another amendment, the CERC has waived the payment of transmission charges and transmission losses for incremental gas-based generation from the regasified liquefied natural gas e-bid auctions.

**Entities responsible for grid reliability**

13 | Which entities are responsible for the reliability of the transmission grid and what are their powers and responsibilities?

The CERC (Indian Electricity Grid Code) Regulations 2010 (Grid Code) brings together a single set of technical and commercial rules that facilitate planning and development of reliable national and state grids, encompassing all the utilities connected to or using the interstate transmission system. One of the key aspects of the Grid Code is to facilitate planning and development of economic and reliable national and regional grids. Furthermore, states have also issued their respective grid code regulations, for regulating the intra-state transmission grid network.

The key entities responsible for ensuring reliability of the transmission grid include the National Load Despatch Centre, the Regional Load Despatch Centre (established for five regions in India), and State Load Despatch Centres (established for each state). They ensure optimum scheduling and despatch and integrated operation of the power system in their respective jurisdiction. Additionally, the CTU and various State Transmission Utilities are responsible for planning and coordination of interstate and intra-state transmission system respectively.

The CERC has recently made regulations for ancillary services to be provided by power generators to improve reliability of the grid. Additionally, the CERC has recently amended the Grid Code to provide a procedure and mechanism for declaration of commercial operation of interstate generating stations. Under this procedure, generators are required to make such a declaration after demonstrating the unit capacity after a trial run and after obtaining the relevant clearance from the National Load Despatch Centre, the Regional Load Despatch Centre or the State Load Despatch Centre. Through the amendment, the CERC has clarified the procedure for such declaration of the commercial operations date for thermal and hydro-generating stations and interstate transmission systems. The procedure involves successful completion of all tests that are required under the Grid Code, issuing notice to power procurers, if any, and successful completion of trial runs for the equipment or generating units to be commissioned.

In relation to renewable sources of energy, several states in India have recently adopted norms for computation of deviations in actual injections of power as against scheduled injections to the state and national grids. These regulations also set out the charges payable towards deviations in quantum and frequency of power injected.

## REGULATION OF ELECTRICITY UTILITIES – DISTRIBUTION

**Authorisation to construct and operate distribution networks**

14 | What authorisations are required to construct and operate distribution networks?

Electricity distribution activities (except for distribution of electricity in rural areas notified by the relevant state government and distribution by notified exempted entities such as local authorities and non-governmental organisations) require a licence from the relevant SERC.

For obtaining a distribution licence, the entity is required to make an application to the SERC as prescribed in the Electricity Act along with the requisite fees. Additional clearances may be required from relevant authorities. In order to promote open access and competition in distribution activities, the Electricity Act permits two or more distribution licensees to operate within the same area of supply through their own distribution network and also permits applicants to file petitions for obtaining a distribution licence in the same area and for the same purpose, as previously granted to another distribution licensee, so long as they comply with additional requirements in relation to capital adequacy, creditworthiness and code of conduct as may be prescribed by the government of India. The Proposed Electricity Act Amendments prohibit having multiple distribution licensees unless in the public interest (as approved by the government of India) or in the case of pre-existing licensees, until the licence expires.

**Access to the distribution grid**

15 | Who is eligible to obtain access to the distribution network and what requirements must be met to obtain access?

Distribution licensees are obligated to provide non-discriminatory supply of electricity to any person situated in the licensee's area, in accordance with the regulations made by the relevant electricity regulatory commission.

Every person whose premises are situated within the distribution licensee's area and who has given notice for wheeling electricity is eligible to receive electricity from: the distribution licensee; or from any other supplier through the distribution licensee's network, by seeking open access. In the first option, the distribution licensee operating in a particular area is required to lay down its network, if required, in order to supply electricity itself to a consumer seeking supply. Under the second option, ie, through open access, a consumer has the right to require a distribution licensee to make its network available for

wheeling electricity to such consumer from a third-party supplier upon payment of wheeling charges and an additional surcharge (in the nature of a cross-subsidy surcharge) as determined by the SERC to meet such distribution licensee's fixed costs arising out of its obligation to supply. The cross-subsidy charge is payable irrespective of whether the distribution licensee's network is used, in the case of third-party supply.

**Government distribution network policy**

16 | Are there any governmental measures to encourage or otherwise require the expansion of the distribution network?

Electricity distribution is largely controlled by government distribution utilities, with minimal privatisation on account of significant historic liabilities of the state distribution companies. However, a few examples of privatisation in certain areas (such as Delhi, Odisha, Ahmedabad, Mumbai and Jamshedpur) have met with success. A tariff for electricity distribution, comprising wheeling charges and cost of supply, is levelled and determined on a cost-plus basis by the relevant SERC. The Proposed Electricity Act Amendments provide for disaggregation of distribution activities by requiring the supplier of electricity and distribution network provider to be separate entities so as to enable consumers to choose their supplier. Once these amendments come into force, supply of electricity will also require a licence from the relevant SERC, and the supply and distribution of electricity will be governed by separate operative codes to be issued by the relevant SERC. The proposed amendments to the Tariff Policy address distribution as well. To ensure the burden of distribution licensees' inefficiencies are not passed on to the consumers, the SERCs and joint commissions (constituted solely for the purpose of tariff setting) are required to not consider aggregate technical and commercial (AT and C) losses exceeding 15 per cent for determination of tariff after 31 March 2019. Further, the AT and C losses are required to be lowered to 10 per cent within three years of achieving AT and C loss level of 15 per cent. The appropriate electricity regulatory commission are also required to determine the tariff without taking into account any subsidy components. It has been proposed to introduce the time-of-the-day (ToD) and two-part tariffs no later than 1 April 2019 for consumers with suitable electricity meters.

One of the major problems plaguing the distribution sector is the abysmal credit ratings of the state distribution utilities and their persistent or extensive delays in making payments to generators under power purchase agreements. Distribution utilities have borrowed heavily to finance losses in their businesses, and are facing major hurdles in repaying their debt. The government has launched the Ujwal Discom Assurance Yojana Scheme (UDAY Scheme) with the objective of improving the operational and financial efficiency of state-owned distribution utilities. One of the major features of the UDAY Scheme involves requiring participating states to take over 75 per cent of the debt of distribution licensees by way of a grant over a period of two years. Such states may then issue non-statutory liquidity ratio bonds, including state development loan bonds for subscription by pension funds, insurance companies and other institutional investors. Under the UDAY Scheme, lenders and financial institutions will not levy prepayment charges on distribution licensee's debt and waive unpaid overdue interest, including penal interest. For financing future losses and working capital of distribution utilities, state governments will take over and fund future losses in a graded manner until the financial year 2020–2021. One of the much-praised aspects of the UDAY Scheme is its greater acceptability by the respective state governments as the debt proposed to be absorbed will not affect their fiscal deficit and in turn will not affect their budgetary allocation from the central government. This should in turn lead to distribution utilities significantly increasing their procurement of power that was constrained on account of their financial distress. However, the UDAY Scheme has been criticised in some quarters for a perceived lack of explicit central government support as part of the transitional financing mechanisms and a lack of operational control measures in terms of automatic fuel and power purchase price adjustments. To date, 27 states and five union territories have signed up for the UDAY Scheme.

It has become apparent, however, on the basis of data supplied by various states that the UDAY Scheme has not achieved the intended results. Many states are failing to reduce their AT and C losses and to narrow the gap between their distribution licensees' cost of power supply and revenue realised to the earmarked levels for the year (ACS-ARR gap).

**Rates and terms for distribution services**

17 | Who determines the rates or terms for the provision of distribution services and what legal standard does that entity apply?

The tariff for electricity distribution, comprising wheeling charges and cost of supply, is levelled and determined on a cost-plus basis by the relevant SERC. In this regard, SERCs are also competent to formulate regulations which set out the terms and conditions for distribution of electricity. While determining the rates and terms, the SERCs are guided by factors mentioned in the Electricity Act, which include promotion of competition, safeguarding of consumers' interest and, at the same time, recovery of the cost of electricity. The rates so determined are usually notified by the relevant SERCs by passing tariff orders. In relation to cross-subsidies, the Tariff Policy provides that the cross-subsidy charge shall be an aggregate of weighted average cost of power; transmission and distribution losses, transmission, distribution and wheeling charges and per unit cost of carrying regulatory assets, if applicable. However, the Tariff Policy recognises that the new methodology for calculating cross-subsidy may not be suitable to all distribution licensees and therefore has given the SERCs the power to review and vary the same taking into consideration different circumstances prevailing in the area of relevant distribution licensee. The proposed amendments to the Tariff Policy provide for the deployment of smart pre-paid meters as it is felt that the shift to such a pre-paid system will remove problems such as meter reading, billing, collection and disconnection in the case of non-payment of bills by consumers. Additionally, proposed amendments to the Tariff Policy require all subsidies to be extended in the form of a direct benefit transfer and the gradual reduction of cross subsidies by the appropriate electricity regulatory commission. Finally, the amendments propose a framework for the simplification and rationalisation of tariffs, as well as, ensuring a consistent system across all states.

SERCs may also consider distribution and supply margins while arriving at returns for the distribution business, and the possibility of capping prices. Additionally, flexibility in the adoption of a surcharge formula and capping of surcharge at 20 per cent of tariff applicable to a consumer have been introduced.

## REGULATION OF ELECTRICITY UTILITIES – SALES OF POWER

**Approval to sell power**

18 | What authorisations are required for the sale of power to customers and which authorities grant such approvals?

Sale and distribution of power are bundled activities and hence, if a developer has obtained a distribution licence for distribution of electricity for a certain area, it has approval to sell power as well to both commercial and domestic consumers, and no specific authorisations are required.

Further, generating companies can also sell power directly to a bulk consumer using open access or through dedicated transmission lines. The consumer, however, is not allowed to further sell the power

to other consumers. Licensed traders are also authorised to supply and trade in power. However, we should highlight that the Proposed Electricity Act Amendments contemplate the segregation of the supply (sale) and distribution businesses (operating the distribution network) and the introduction of multiple supply licensees and the restriction of having only one distribution licensee for a given area.

**Power sales tariffs**

19 | Is there any tariff or other regulation regarding power sales?

The SERCs issue multi-year tariff regulations to regulate the procedure for determination of a power sales tariff (comprising fixed charges and energy charges, which are usage-based) of distribution licensees for various classes of consumers, the categorisation of which depends on the type of entities that require the electricity and the voltage levels at which the electricity is to be distributed. For instance, a separate tariff is determined for low-tension (LT) consumers (which includes domestic, residential and commercial units) and high-tension (HT) consumers (which includes industries and railways). The HT and LT classes of consumers are further subdivided depending on the type of entity to which electricity is to be supplied (for instance, HT 1A consumers include all manufacturing, industrial establishments and registered factories, while HT 1B tariff is determined for railways). The components and factors to be considered while determining a tariff are similar to the components of a generation tariff and include return on equity capital, interest on debt, interest on working capital, depreciation, power purchase cost, and operation and maintenance expenses, albeit with respect to the distribution business. The proposed amendments to the Tariff Policy envision a two-part tariff with capital costs being reflected in the fixed charges and the energy charges reflecting the average purchase price of power with administrative margins.

With a view to promoting competition and also to bolster the segregation of content and carriage philosophy, the Proposed Electricity Act Amendments contemplate that while the tariff to be charged by the distribution licensee will be determined by the SERC, the tariff to be charged by a supplier will be market determined, subject to a SERC-specified ceiling. That being said, the Proposed Electricity Act Amendments also enable the supplier to charge a tariff higher than the specified ceiling after obtaining regulatory approval.

**Rates for wholesale of power**

20 | Who determines the rates for sales of wholesale power and what standard does that entity apply?

In furtherance of the multi-year tariff orders issued by each SERC for distribution tariff for various types of HT and LT consumers, distribution licensees file their respective petitions before the SERC for their area of supply. Such tariff petitions typically include true-up of the tariff based on the previous year (ie, specific adjustment required on a case-by-case basis in relation to units sold, AT and C losses, etc), review of the current year's performance and approval of the aggregate revenue requirement of the distribution licensee for the upcoming year. In reviewing the aggregate revenue requirement, the SERC takes into consideration factors such as cost of procurement of electricity (through long-term contracts or short-term procurement from the open market, in case of shortage) and, based on such review, the commission may alter the tariff mentioned in the multi-year tariff order for such distribution licensee.

**Public service obligations**

21 | To what extent are electricity utilities that sell power subject to public service obligations?

The Electricity Act sets out various obligations and duties of a distribution licensee, which include the obligation to provide open access to any applicant (subject to system constraints), the duty to develop and maintain a distribution system and commence supply within one month of request in the distribution licensee's area of supply. The Supreme Court has stated in various judgments that there is no exemption from the universal service obligation of any distribution licensee under the Electricity Act and the licensee has a statutory duty to supply electricity upon application to any premises located in the distribution licensee's area. One of the key reasons for the government's decision to reform debt-ridden distribution licensees under the UDAY Scheme was to ensure that the distribution licensees are able to fulfil and perform their roles and functions under the Electricity Act effectively.

## REGULATORY AUTHORITIES

**Policy setting**

22 | Which authorities determine regulatory policy with respect to the electricity sector?

The power sector is governed by the government of India primarily through the Power Ministry and the MNRE. The Department of Atomic Energy of government of India governs development of nuclear energy.

Other regulatory policies and technical and performance standards are determined by the CERC, the SERCs, NITI Aayog and the CEA.

**Scope of authority**

23 | What is the scope of each regulator's authority?

The CERC and the SERCs exercise jurisdiction over all interstate and intra-state electricity regulatory issues respectively (except issues relating to nuclear energy, which are regulated by the Atomic Energy Regulatory Board) and are entrusted with the function of notifying regulations and acting as the independent regulators for their respective jurisdictions. Some of their key functions and responsibilities include preparing their respective grid codes, issuance of licences, determination of tariffs, adjudicating disputes, and aiding and advising the government on any matter referred to them.

The Power Ministry and the Renewable Energy Ministry act as the legislating bodies and are mainly responsible for evolving general policies (including the NEP, the Tariff Policy and the Rural Electrification Policy) for the development of the electricity sector, in consultation with the state governments and the CEA.

The CEA, not a regulator in the electricity sector, primarily serves as the technical advisory body to the government of India, advising on all technical matters related to transmission, generation and distribution (including specifying technical standards for construction, and prescribing grid standards for operation and maintenance of transmission lines and safety requirements).

**Establishment of regulators**

24 | How is each regulator established and to what extent is it considered to be independent of the regulated business and of governmental officials?

The CERC and SERCs are statutory bodies under the Electricity Act, which also sets out their powers and functions. Being autonomous bodies, they perform their functions in an independent manner without any government interference. However, regulatory authorities

are required to be guided by policy directions of the government of India issued under the Electricity Act. That being said, the Proposed Electricity Act Amendments require the SERCs and CERC to mandatorily comply with the provisions of the Tariff Policy (as opposed to being merely guided).

The CERC was established by the central government under the Electricity Act and the Electricity Regulatory Commissions Act 1998 where members of the CERC are appointed by a committee that is appointed by the central government. Similarly, SERCs are also established by the respective state governments under the Electricity Act and the Electricity Regulatory Commissions Act 1998.

**Challenge and appeal of decisions**

25 To what extent can decisions of the regulator be challenged or appealed, and to whom? What are the grounds and procedures for appeal?

Under the Electricity Act, the CERC and SERCs (and adjudicating officers of such commissions) have the power to hold inquiries and adjudicate disputes relating to interstate matters for the CERC and intra-state matters for the respective SERCs. Under section 79 of the Electricity Act, the CERC is empowered to adjudicate upon disputes involving generating companies, either owned or controlled by the central government or generating companies who have entered into a composite scheme for generation and sale of electricity in one or more states, or transmission licensees with respect to interstate transmission of electricity and regulation of tariff. Section 86 of the Electricity Act authorises the respective SERCs to adjudicate upon disputes between licensees and generating companies. Both CERC and the SERCs also reserve the power to refer any dispute to arbitration.

APTEL has the power to entertain appeals arising out of decisions of the CERC, the SERCs or adjudicating officers, if filed within 45 days from the date of receipt of the impugned order. APTEL is also conferred with suo motu jurisdiction to examine the validity of any order made by an adjudicating officer, CERC or SERC, in relation to any proceeding. Additionally, any person aggrieved by the order of any electricity regulatory commission may approach the relevant High Court of the state for adjudicating on any question of law.

APTEL is required to decide appeals as expeditiously as possible and endeavour to dispose of the appeal within 180 days of filing of the appeal. Further, appeals against the decisions of APTEL may be filed before the Supreme Court within 60 days of receipt of such decision.

## ACQUISITION AND MERGER CONTROL – COMPETITION

**Responsible bodies**

26 Which bodies have the authority to approve or block mergers or other changes in control over businesses in the sector or acquisition of utility assets?

Under the Electricity Act every transmission and distribution licensee must seek the prior approval of the relevant electricity regulatory commission, without which it cannot undertake any transaction to acquire, or merge its utility with, the utility of another licensee; or assign its licence, or transfer the whole or a part of its utility.

Additionally, the Competition Commission of India (CCI), established under the Competition Act 2002 (Competition Act) has, under the merger control provisions, the authority to block a combination (a merger or acquisition beyond specified assets or turnover thresholds) in the electricity sector if it is of the opinion that such merger or acquisition will have an appreciable adverse effect on competition (AAEC) on the relevant market, such as the electricity sector in India.

**Review of transfers of control**

27 What criteria and procedures apply with respect to the review of mergers, acquisitions and other transfers of control? How long does it typically take to obtain a decision approving or blocking the transaction?

The Competition Act prohibits any enterprise or person from entering into a combination which causes or is likely to cause an AAEC within the relevant market in India. The Competition Act also mandates that any person or enterprise proposing to enter into a combination obtains prior approval of the CCI before executing the transaction. If the CCI is of the opinion that the proposed combination will not have an AAEC on the relevant market in India, it approves the transaction, and if it subsequently finds that the combination may have an AAEC within the relevant market in India, it may prohibit the proposed combination or allow it subject to certain conditions meant to neutralise the adverse effects of such combination.

For determining the AAEC of any combination, the Competition Act sets out specific factors (such as extent of entry barriers, degree of countervailing power in the market, extent of effective competition likely to sustain in a market, nature and extent of vertical integration in the market, possibility of a failing business, etc) and requires the CCI to make a decision within a period of 210 days from a notice of combination being filed. If no order is passed by the CCI on the proposed combination within the prescribed period, it is deemed that the proposed combination has been approved by the CCI. By way of its regulations, the CCI has committed to 'endeavour' to pass an order within a period of 180 days from a notice of combination being filed. In practice, the CCI usually gives its prime facie opinion approving the transaction within 60 working days in cases without any competition concerns. In case of competition concerns, the CCI can take up to six months to pass its final order.

While the Electricity Act does not set out any specific thresholds, the bidding documents entered into by entities in the power sector typically prescribe provisions for equity lock-in and change in control for a specified period (except for wind power procurement), which effectively block a merger or acquisition.

Other than competition law and sector-specific restrictions, provisions of the Companies Act 2013 and the Securities and Exchange Board of India (Substantial Acquisition of Shares and Takeovers) Regulations 2011 (applicable to listed companies) will also apply with respect to change in shareholding through mergers and acquisitions.

**Prevention and prosecution of anticompetitive practices**

28 Which authorities have the power to prevent or prosecute anti-competitive or manipulative practices in the electricity sector?

The CERC and SERCs are empowered to issue appropriate directions to a licensee or an electricity generating company if such licensee or generating company enters into any agreement or abuses its dominant position or enters into a combination that is likely to cause or causes an AAEC in the electricity sector. The CCI has the authority to initiate inquiry into alleged anticompetitive conduct, either suo motu on the basis of information that it has or on the basis of complaints received or on a reference made by the government or statutory authorities (such as CERC and the SERCs). Further, the CCI can also make a reference to other statutory authorities (such as CERC and SERC) for their non-binding opinion on issues pertaining to the sectors under their jurisdiction. Similarly, other statutory authorities can also make a reference to the CCI for issues pertaining to competition law. This enables electricity regulatory authorities to make their own assessment and also consult the CCI with respect to alleged anticompetitive conduct.

Furthermore, consumer forums established under the Consumer Protection Act 1986 also have the power to deal with malpractice affecting end consumers. Additionally, any consumer who is aggrieved by non-redressal of their grievances by a distribution licensee may approach the ombudsman appointed by the respective SERCs. Any non-compliance of an order made by the ombudsman is typically punishable with a monetary penalty.

**Determination of anticompetitive conduct**

29 What substantive standards are applied to determine whether conduct is anti-competitive or manipulative?

Section 3 of the Competition Act prohibits agreements that cause or are likely to cause an AAEC in India. 'Agreement' includes an arrangement, understanding or actions in concert. Such agreements can be oral or written, formal contracts or informal arrangements, and need not be enforceable by law. While determining AAEC the CCI considers the following factors:

- creation of barriers to new entrants in the market;
- driving existing competitors out of the market;
- foreclosure of competition by hindering entry into the market;
- accrual of benefits to consumers;
- improvements in production or distribution of goods or provision of services; and
- promotion of technical, scientific and economic development by means of production or distribution of goods or provision of services.

Section 4 of the Competition Act prohibits abuse of dominant position. In case of a section 4 investigation, the CCI has to:

- define the relevant market;
- demonstrate dominance in such market; and
- establish abuse of dominance by the concerned enterprise.

Abuse of dominance is of two kinds – exploitative and exclusionary conduct. These cover predatory pricing, imposition of unfair terms and prices in one-sided contracts, leveraging, denial of market access, etc.

**Preclusion and remedy of anticompetitive practices**

30 What authority does the regulator (or regulators) have to preclude or remedy anti-competitive or manipulative practices?

See question 28.

## INTERNATIONAL

**Acquisitions by foreign companies**

31 Are there any special requirements or limitations on acquisitions of interests in the electricity sector by foreign companies?

It is permissible to have 100 per cent foreign direct investment (FDI) in generation (except nuclear power), transmission, distribution of electricity and power trading sectors. Up to 49 per cent foreign investment (26 per cent through FDI and 23 per cent through foreign institutional investment) in power exchanges without prior regulatory approval in the primary and secondary markets.

Further, while there are no special requirements or limitations on acquisitions of interest in the electricity sector by foreign companies, for competitively bid projects the standard bidding documents issued by the Power Ministry may specifically provide each distribution utility (that is procuring power) to evaluate the association of a foreign entity (with the bidder) from a national security or public interest perspective. To the extent such association is found to be detrimental to the national interest, the distribution utility has the ability to reject the associated bid.

**Authorisation to construct and operate interconnectors**

32 What authorisations are required to construct and operate interconnectors?

As per the regulatory framework applicable to the construction and operation of interconnection and transmission systems, no separate authorisations are required to construct and operate interconnectors. Transmission licensees are required to abide by the regulations framed by the CERC and the CEA with respect to the construction and operation of transmission systems and connectivity to the grid. Under the Electricity Act and associated Rules, the Chief Electrical Inspector is required to certify that any apparatus that is used for a transmission system meets the safety regulations and guidelines prescribed. Further, according to the CEA's regulations, any electrical installations and apparatus that are of a voltage exceeding 650V are required to be inspected and approved by the Chief Electrical Inspector to the Government. Therefore, the construction and operation of an interconnector, or any other similar apparatus, will be governed by the regulations that have been issued by the CERC and the CEA and where required, an approval must be obtained from the Chief Electrical Inspector.

**Interconnector access and cross-border electricity supply**

33 What rules apply to access to interconnectors and to cross-border electricity supply, especially interconnection issues?

Until December 2016, there was no legal framework for governing and regulating cross-border electricity supply. The Electricity Act is also silent on cross-border electricity supply. In the absence of a regulatory framework governing cross-border electricity supply, Indian power trading companies have been supplying and procuring electricity to and from neighbouring countries including Bhutan, Bangladesh, Myanmar and Nepal by way of bilateral agreements which are generally government-to-government contracts. Additionally, some key Indian players in the power trading and power exchange verticals have approached the CERC to allow import of power through power exchanges, where the CERC has requested the Power Ministry to provide guidance on the subject. Meanwhile, on 5 December 2016, the Power Ministry issued Guidelines on Cross Border Trade of Electricity. According to these guidelines, in case of cross-border transaction of electricity through arrangements other than government-to-government negotiations, the tariff for import of electricity by Indian entities from generating stations located outside India may be determined (under long-, medium-, short-term agreements) through a process of competitive bidding. On the other hand, the tariff for export of electricity to entities of neighbouring countries by Indian entities (through long-, medium-, short-term agreements) may be as mutually agreed or through competitive bidding, subject to payment of applicable transmission or wheeling charges. Transmission interconnection between India and a neighbouring country is envisaged to be planned jointly by transmission planning agencies of the two countries.

Further, the Power Ministry has notified Member (Power System), CEA as the designated authority for functions prescribed under these guidelines.

In February 2017, CERC issued draft regulations covering the cross-border trade of electricity for public consultation. The final version of these regulations was notified by CERC in March 2019. They address key aspects of the cross border trade of electricity such as connectivity, open access and system safety and set out the institutional framework for cross-border trade of electricity, such as the designated authorities and agencies for facilitation the approval process and procedures for

import and export of electricity. They also envisage that a settlement nodal agency will be responsible for settling of charges pertaining to grid operation (including deviation charges) in relation to a particular neighbouring country and the National Load Dispatch Centre will act as the system operator for cross-border trade. The Central Transmission Utility is responsible for grid access related requirements of cross-border trade.

On 26 April 2018, the CEA issued Designated Authority (Conduct of Business Rules), 2018 to frame its own rules for Conduct of Business (CBR) for facilitating the process of approval and laying down the procedure for Cross Border Trade of Electricity between India and neighbouring countries and other related matters.

India, along with other members of the South Asian Association for Regional Cooperation (SAARC), has also signed the SAARC Framework Agreement for Energy Cooperation (Electricity) with the objective of enabling cross-border trade of electricity, which provides a broad framework for data updating and sharing, planning of cross-border interconnections, transmission access, etc. Additionally, media reports suggest that steps for establishing a SAARC power grid have been initiated by SAARC member countries.

## TRANSACTIONS BETWEEN AFFILIATES

### Restrictions

34 What restrictions exist on transactions between electricity utilities and their affiliates?

Restrictions on transactions with affiliates are typically provided in licence conditions and in regulations formulated by the relevant electricity regulatory commissions. Typically, such transactions should be undertaken on an arm's-length basis and at a value that is fair and reasonable. Additionally, the Electricity Act also allows transmission or distribution licensees to engage, with the prior approval of the relevant electricity regulatory commission, in other businesses for the optimum utilisation of their assets, if a specified proportion of revenues from such other business are used towards reducing charges for wheeling, or wheeling and transmission, as the case may be. Further, in such a case, the transmission or distribution business of the licensee must not subsidise the other business undertaking, nor be encumbered by it.

### Enforcement and sanctions

35 Who enforces the restrictions on utilities dealing with affiliates and what are the sanctions for non-compliance?

The appropriate electricity regulatory commission is the body responsible for enforcing such restrictions. These restrictions form part of the terms of the licence, therefore the appropriate electricity regulatory commission can ensure compliance, pursuant to the powers provided under the Electricity Act, and impose sanctions, which include imposition of penalties and revocation of the licence.

## UPDATE AND TRENDS

### Key developments of the past year

36 Are there any emerging trends or hot topics in electricity regulation in your jurisdiction?

The Ministry of Power has recently issued an order and related procedures regarding the opening and maintaining of a payment security mechanism (to secure tariff payments) as required under power purchase agreements between developers and distribution licensees (in the form of bank guarantees or letters of credit). In the Indian context, while payment security is typically provided for in power purchase agreements, distribution licensees (as the offtaker) do not provide such payment security as a matter of practice. This comes as a much-needed reform in the distribution sector, particularly given the poor financial health of the state owned distribution licensees.

In an order dated 28 June 2019 (Order), the Ministry of Power has directed that load despatch centres despatch power only from those projects for which a letter of credit had been opened in accordance with the power purchase agreements. An intimation is required to be provided to the load despatch centres in this regard with details such as the period of supply. Electricity will be despatched only upto the quantity for which payment security has been provided. The Order is effective with respect to power purchases made after 1 August 2019.

To give effect to the Order, the Ministry of Power has issued a detailed procedure for scheduling of power on 17 July 2019 (Procedure). The Procedure reiterates that an intimation of opening of letter of credit is to be provided to the load despatch centre along with details of the period of supply. The Procedure also sets out that the payment security may be provided for a shorter duration of supply (such as a week or fortnight) or advance payments may be made through direct deposits (corresponding to at least one day's purchase).

**Trilegal**

**Neeraj Menon**
neeraj.menon@trilegal.com

**Akshita Amit**
akshita.amit @trilegal.com

17th Floor, Tower B, Peninsula Business Park
Lower Parel (West)
Mumbai 400 013
India
Tel: +91 22 4079 1000
Fax: +91 22 4079 1098
www.trilegal.com