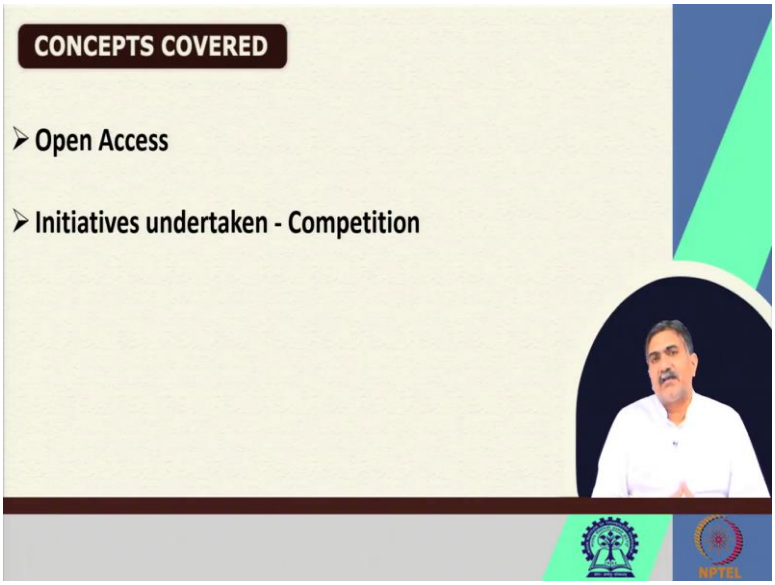
Introduction to Law on Electricity
Professor. Uday Shankar
Rajiv Gandhi School of Intellectual Property Law
Indian Institute of Technology Kharagpur
Lecture 19
Open Access

Welcome to all of you. We have studied on the provisions related to generation, distribution, transmission. We have understood that what all activities are being delicensed under the new Act and then the activities, which are now regulated and licensed one.

So, we have studied in earlier sessions. The transmission, then distribution, these two activities are licensed and regulated, and we have also tried to understand that how the law has been enacted, how the law has been designed to bring in more competition in the power market in order to promote the interest of the consumer and in this regard, the provision related to open access has a phenomenal role to play.

(Refer Slide Time: 01:35)

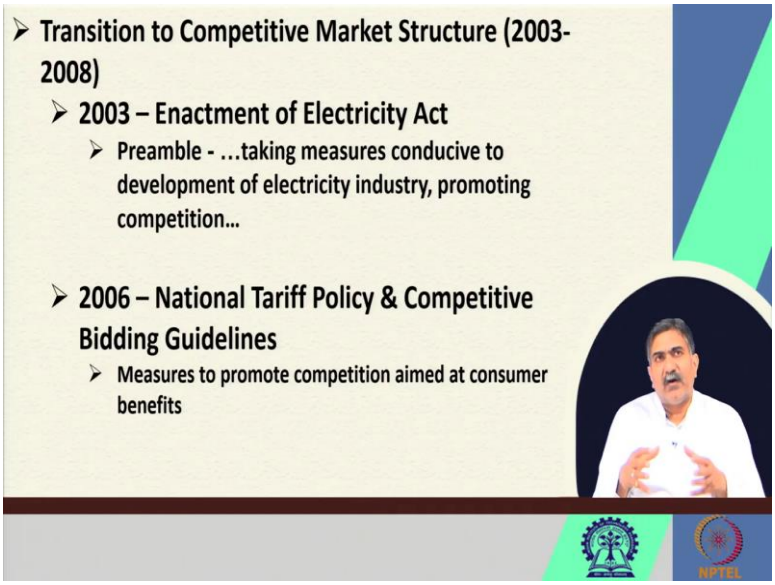


In today's session, we will be studying the provisions related to open access and what are the initiatives taken with regard to the same. And before we try to look at that how the law attempts to implement, how the law attempts to operationalize open access, we should see that what are the measures which have taken till date.

The idea why I am highlighting this before getting into the provisions, which are talking about open access. Before getting into that how the regulatory commissions are being authorized to implement open access, that what all has been done till date, how the open

access has been initiated, how the open access has been implemented till date, what all has been done to bring in vibrancy in the power market.

(Refer Slide Time: 02:44)



When I look at the scheme of the law, what I find is that the law categorically suggests that the power market has to be competitive and competitive would mean, is the involvement of multiple players. Competitive here would mean that let the rule of the game be determined by the independent regulatory bodies, and the different stakeholders follow the rules and contribute in the growth of the power market.

In this regard, when you look at the very preamble of the Electricity Act 2003, the preamble becomes a very important source of law. As a law student, we know that there is interpretation of a statute, where the provisions of law, if there are any ambiguity in those provisions, then those ambiguities are being resolved by taking help of different aids, be it external aid or be it internal aid.

Preamble, in that regard, plays a significant role in helping the court to clarify the ambiguity. Since preamble is an observation, preamble is an objective to understand the minds of the lawmaker, what they intend to achieve. Preamble facilitates in unfolding the views of the lawmakers; what they intent to achieve by enacting this law. That is what is the role of the preamble. That is what is the purpose of the preamble.

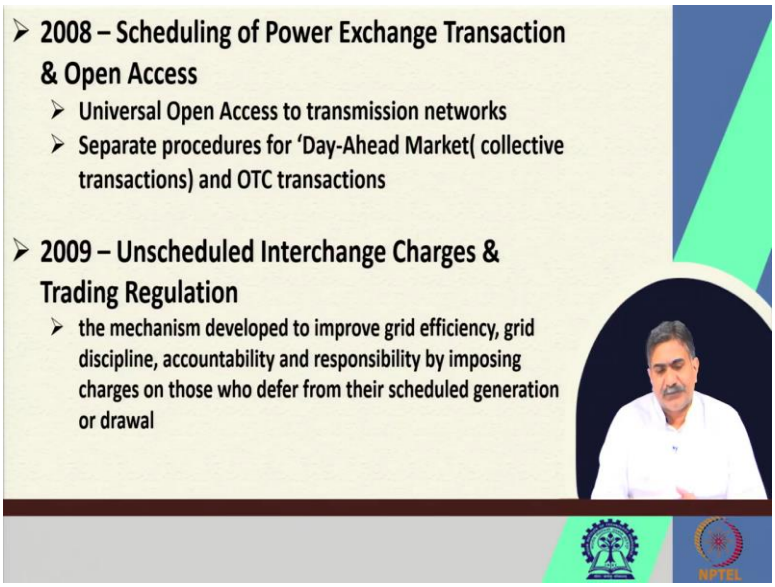
When you read the preamble of the Electricity Act, you find that it is clearly been indicated that necessary measures are to be taken to develop the electricity industry, and one way of measure suggested is to promote competition.

When you look at the implementation model of this objective that how this objective is to be implemented. What shall be the mechanism to implement the same and then you would find that open access is one way, an important one for bringing in the competition and through that contributing to the development of the industry.

So, the idea of open access is impliedly ingrained in the preamble, in the language of preamble. And the way the opening of the market has been designed, it is not an exaggeration to say that open access appears to be the soul of the electricity law. And in addition to that, you would find that in 2016, you have a tariff policy which we have discussed in the earlier session, where it has been categorically indicated that it is the competitive bidding through which tariff is to be determined as far as possible and that is what we are experiencing in case of the agreements arriving between the generating units and the consumer. What you also call-in terms of longer agreement is power purchase agreements, long duration agreement.

So, one is to settle the pricing through bilateral understanding based on the guidelines given by the regulatory commission, and the other one is, to allow the market to grow in such a manner so that the dynamism would be there on the pricing and then the efficiency would come in the market. And that would be possible when you have this competitive bidding for buying the electricity, and that is what has been envisaged, that is what has been attempted to implement in the 2006 National Tariff Policy.

(Refer Slide Time: 08:50)



In order to give necessary impetus to open access, in order to give it an operational shape, in 2008, again it was suggested to have a scheduling of power exchange transaction, where the idea of power exchange market was conceptualized, where if you draw an analogy it is something like trading in electricity, where you would find that the surplus power or where the generating units are not interested in engaging into long-term PPAs or looking for the buyer and the buyer is negotiating a price, which is going to give economic rate for the buyer.

So, universal open access to transmission networks was also designed under it. What would be the benefit of universal obligation, so the transmission network would be available to all the players, be it generating units, be it the distribution network, by paying the certain charges. As we have been studying that this market, this sector is a cost intensive sector.

Lot of capital expenditure is required to operate in this market. And therefore, it is not feasible to have one entity spending the amount which it cannot recover, and that is why it has been suggested that let there be unbundling done and then with that unbundling, the network can be efficiently utilized by all the players, all the players of the different segments.

Also, it has been suggested that there should be a separate procedure for Day-Ahead market, Day-Ahead market; what does it mean, where the requirements are being informed a day prior when the transaction is taking place. This will help in informing the generating units

that, what the requirements are and also for maintaining the grid discipline; that is what is important, and that is how it will be done.

Now, in 2008, this is what has been done. In 2009, an important change has been done where unscheduled interchange charges and trading regulation has come into existence. Now, what is unscheduled interchange charges? Now ideally, when you look at the power market, ideally how it should operate?

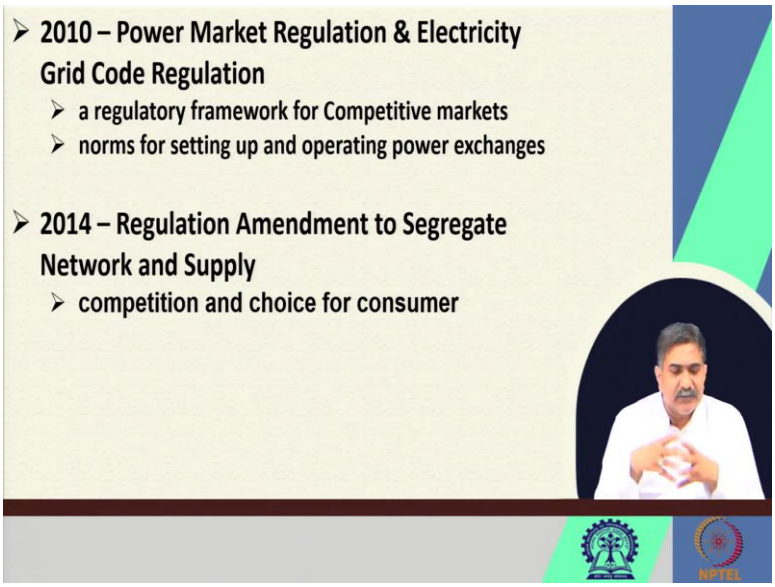
Ideally, it should operate in such a manner where there should be perfect balance between supply and demand. So, 1 megawatt is needed, and 1 megawatt is getting generated; an ideal setup because we know very well that electricity is a product which cannot be stored. Having said so, let me also inform you that lot of research is going on to build a storage capacity of electricity.

So, when this perfect match is not happening, when supply and demand is not being met in a very ideal sense, that what is being demanded that exact volume is not getting supplied. Then, what would happen is that, there would be some variation; variation could be in case of over-injection of electricity, or variation could be over-drawals of electricity.

This can very well disturb the grid, and this can very well lead to the collapse of grid. And thus, it has been suggested through this regulation that let there be a disciplined behavior on the part of generating units and the licensee or the consumer. So, that any situation of over-drawal or over-injection or under-drawal should be kept in mind. And this would also help in earning revenue when there is a demand, and there is injection of electricity done by the generating units. Then obviously, the generating unit for supplying that electricity would be getting higher value.

So, if you recall, I have briefly talked about the mechanism of fixation of tariff, which I will be talking in detail when I will discuss tariff. That there are three components fixed, variable and unscheduled interchanges. So, this component is playing a significant role in not only ensuring discipline in the grid, but also for generating an opportunity to earn more or pay less by the generating units or the consumer or licensee respectively. So, this is another important measure which has been taken for facilitating open access.

(Refer Slide Time: 15:19)



Now 2010, you again find that electricity grid code regulation has come into effect, and this is for making the power exchange market more robust; the idea is that. We know very well that now, grid frequency has been stabilized between 49.5 to 50.05, and this is what is the frequency in which the grid has to be maintained.

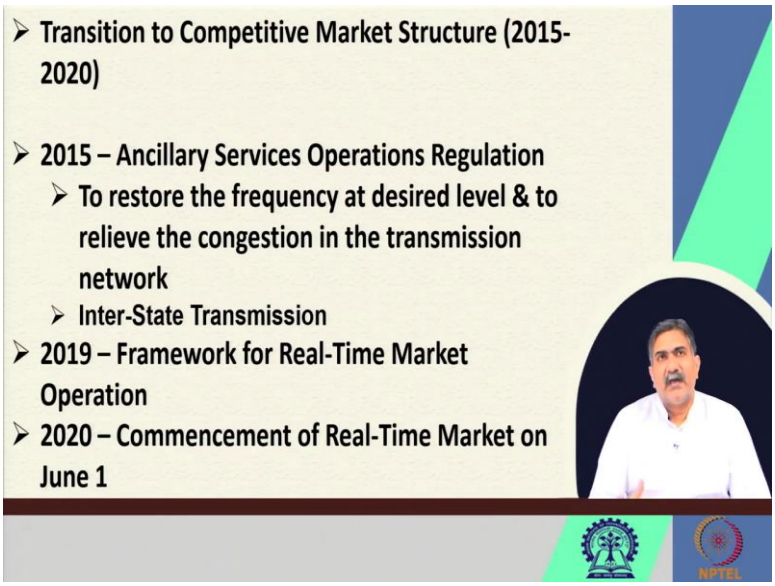
Now, this very discipline, this very measure has given a confidence to the generating units as well as to the licensees that as long as they are going to maintain it, there will not be an issue of supply of reliable electricity or quality electricity. So, these regulations help the generating units to plan for selling the electricity in the open market or this is also in a way encouraging the buyer to get electricity directly from the generating units through the open access mechanism.

In 2014, another important landmark proposal was introduced, where it has been suggested that let there be a segregation of network and supply. We have discussed in detail about this in the last session, where we have said that this is what is the proposal to separate the wire business and the supply business.

This would bring in necessary change in the distribution segment, and obviously, if you can recall, this is what I said that more vibrancy in the distribution segment, better is the prospect for the growth of electricity market. Because of the very fact that, if you confer more choices to the consumer, consumer will certainly expect better services and better services then will

become a norm of the market, and whosoever would be giving better services will have a larger clientele and in that process no denial that there will be very healthy competition amongst the players of the market.

(Refer Slide Time: 17:54)



Now, you would find that certain developments have taken place also between 2015 to 2020. One important development is ancillary services operations regulation. This is all about bringing in a sort of mechanism where the congestion in the transmission network is to be addressed. So that, any situation of destabilizing the grid would be addressed by either generating units or by the licensees.

Accordingly, they will get the benefit on the pricing of the electricity on the tariff. Efficiently, they manage the network, better is the benefit at the front of price fixation. 2019-2020 has brought in another important aspect to again leverage the open access system is the introduction of real-time market operation.

You can very well visualize that, with the change in the consumption pattern of the consumer with regard to electricity, it is very difficult to evaluate the pattern and plan accordingly. Nowadays, good number of home appliances are being used by the household, and considerable improvement has happened on rural electrification. And all this are strengthening the power market, and all these initiatives are also in a way bringing a sort of certainty in the power market. And what is that certainty? The certainty is in the form of real-time market.

That let there be no conjectures on the withdrawal of electricity, peak demand, off-peak demand. What shall be the mechanism? Let it be a well-accounted mechanism, and obviously in this regard, the information technology is playing a significant role. So, real-time market operation is another significant development; rather, I would say an intervention to introduce, to facilitate, to promote open access.

(Refer Slide Time: 21:16)

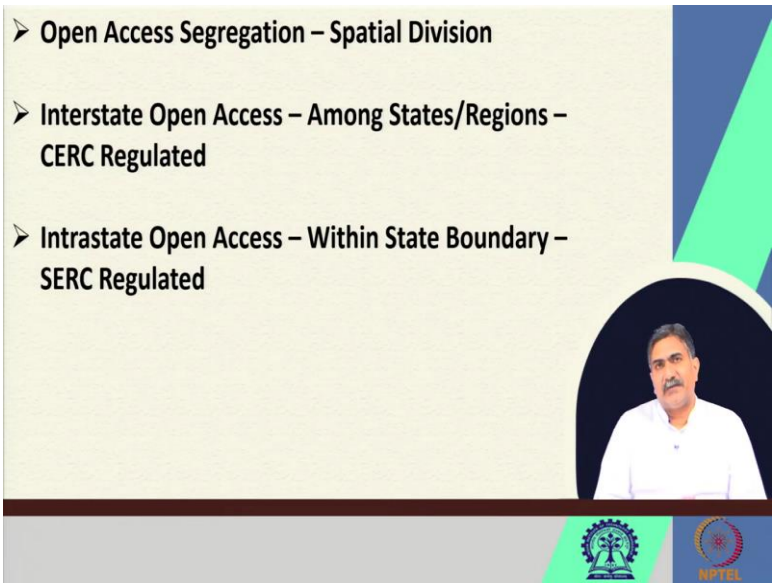
Moving ahead from the crisis on the generation, Electricity Act has made the generating activity as a delicensed one and then also provided for captive generation, so that the large industries can very well have its own setup as far as the need of electricity is concerned. So, this situation of supplementing the generation capacity certainly takes us to the situation where there would be electricity to be traded in the open market.

When you do not have the surplus, when you do not have the very robust mechanism for generation, when you do not have the assured capacity to generate electricity, then nothing can be traded in the open market. So, delicensing captive power plant has promised that there would be a situation where the electricity as a commodity will be traded in the open market.

For ensuring the same, it has been suggested that, let there be non-discriminatory access to transmission and distribution network, which we will be discussing in detail in the coming session. What is the law relating to this? And as I said, initially from a highly regulated sector where there was a complete monopoly of a State; now, with the 2003 Act, State has been completely asked to stay away in regulating the market. State has a very minimal role, very minimal role in a sense, where there is a need to intervene on the issue of public interest.

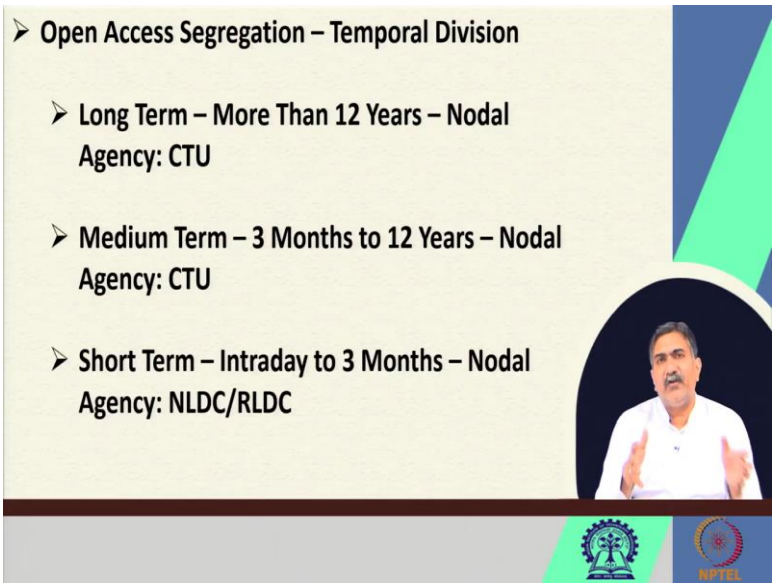
For example, what we discussed under section 11 of the Act, we have highlighted under section 37 of the Act, where the matter is involving a public interest, then only State can involve. Otherwise, the Electricity Act has come up with a framework where the sector is being allowed to be regulated by an independent body, and all this is being planned, all this is being designed to develop the electricity market.

(Refer Slide Time: 24:25)



Now, when you look at the open access market, you would find that it has two different kinds of divisions. One is across the boundary, and the other one is within the boundary, interstate and intrastate open access. So, one category is with regard to geographical boundary. If it is interstate then the responsibility to formulate the regulation is of the Central Electricity Regulatory Commission. If it is intrastate then the responsibility lies with the State Electricity Regulatory Commission.

(Refer Slide Time: 25:17)



Apart from this geographical division, you also have the temporary division where it is all about the timeframe, where you find that, there could be a possibility of open access in a long-term setup, where you have more than 12 years' timeline, which has been suggested.

The nodal agency for the same is central transmission utility, and then you have a medium-term where it is 3 months to 12 years for that again it is central transmission utility, which has a responsibility, and then you have the short-term which is intraday to 3 months-time, where the responsibility is given to National Load Dispatch Center (NLDC) or Regional Load Dispatch Center (RLDC).

So, if you look at the development of open access and how the regulations have been developed, how the regulations have over a period of time facilitated open access, you would find that much has been done to make this a reality. Much of this has happened in order to ensure that the consumer which is looking for open access, looking for supply of electricity other than the distribution licensee should have all the necessary encouragement, and the same is the case for the generating units.

Now these regulations, if you look at it, it is not very difficult to make out that it has largely been made considering the bigger consumer in mind, considering the industrial consumer or commercial consumer in mind. But then, that is also highly desirable because industrial or commercial consumer buy bulk of the electricity. And therefore, it is well expected that they

would be looking for buying the electricity on a very competitive rate and which is possible only through this open access.

(Refer Slide Time: 27:53)

Right now, the way the open access operates, the consumers are divided into two categories; One consumer which has the requirement of more than 1 megawatt, for them there is a choice of supplier and then consumer without choice of supplier is one who has below 1 megawatt.

So, this is how the open access for consumer is being planned. In some of the states, there are initiatives taken to provide for open access, even for the smaller consumers. But then, challenges are there for making it a complete success. Now, this is what we have discussed in the session. In the next session, we will try to understand, what are the provisions with regard to open access. Thank you very much.