Introduction to Law on Electricity Professor Uday Shankar Rajiv Gandhi School of Intellectual Property Law Indian Institute of Technology Kharagpur Lecture 15 Load Despatch Centre

Welcome to all of you. Now in today's session, we will be studying on Load Despatch Centres. We will understand what are the powers, functions given. We will also trace the growth of the load despatch centre, how it has evolved over a period of time, and what are the legal provisions that are given under the Act for the functioning of the load despatch centres. We will also read some of the case laws to understand how the role has been interpreted and how the role has been understood whenever the dispute has come before the Tribunal or the court as a case, maybe.

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Now these are the concepts which we will be covering; we will be discussing about the powers and functions given; we will trace the history, how it has evolved over the period of time, and what are the challenges in times to come and then. Obviously, the judicial approach will be one of the significant points of discussion to understand these narratives.

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- ➤ Load Despatch Centres (LDC) Conceptualised to coordinate the demand-supply management of electricity vide amendment in 1948 Act in the year 1991
 - ➢ In 1964, Regional Grids were governed by Regional Electricity Boards (REBs) − 1970 − RLDCs were established for operational control of the Boards
 - In 1998 designated the RLDC as an apex body for ensuring smooth and grid operation
- Natural resources needed for power generation are unequally distributed across the regions
- Coordinated planning across the regions are required for the growth of the power sector

When you look at the Load Despatch Centre, it has its origin prior to the 2003 Act; Load Despatch Centre was conceptualised under the 1948 Act, the Electricity Supply Act, and it was done through an amendment in 1991. But then, the idea of having integrated system for load, transmission of electricity from one area to another area was very well visualized in the year 1964 when the regional grids came into existence. And these grids were governed by regional electricity boards, and then in 1970, the regional grids which were governed under the electricity boards rechristened as Regional Load Despatch Centre and in 1998 Regional Load Despatch Centre has become an Apex body which has been given the responsibility for smooth functioning of the transmission sector and also to ensure that there is efficient operation of grid.

Now let us try to understand why the very need of development of grid network was thought of or why it was planned. When you look at the availability of the fuel to generate electricity, it is very asymmetrical in this country. The northern part you would find is more on hydro, eastern part is more on coal-based thermal power plants. So, this very differences on the availability of fuel led to very sort of unequitable growth of the power sector. It did not grow in a very uniform manner across the country. But at the same time, the need of the electricity is very uniform, regardless of whether that region is generating electricity or not.

So, even if some region generates surplus, that surplus cannot be consumed by this region. Thus, this surplus has to be transported to the other parts of the country, and this is possible only when we have a very robust grid mechanism where the evacuation is being planned, where scheduling is in plan; what quantity is being injected in the grid and what is the demand from the consumer side? So, all these led to the growth of Load Despatch Centres.

Because there was a need felt to have a very coordinated planning, coordinated planning is not confined to only one region, coordinated planning not only to the region where the electricity is getting generated. Because power sector gives a lot of promise to the economic growth and in order to ensure economic growth, in order to ensure that there is an adequate return on the investment done by the investor, it is desirable to have a very quality supply of electricity. So, you can very well visualize that western part is more industrialized in terms of manufacturing units and eastern part are having thermal power stations. So, there is a need to connect these regions for the quality supply of the electricity and also for the development of the power market as such.

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- CTU/STU to operate as LDC until a govt. company or any authority notified by the CG/SG – 2003 Act
- ➤ Load Despatch activities have been transferred from one utility to another now got an independent status at regional and national level Power System Operation Corporation India Ltd. (POSOCO) 2009
- ➢ In 2017 POSOCO got separated from the parent company POWERGRID

Now, when the Load Despatch Centre, when this idea was conceived at that time; it was thought that let the central transmission utility or state transmission utility carry on the activity of Load Despatch Centre, since they are anyway not engaged in the generating business or they are not engaged in trading activity.

So, under the 2003 Act, it was provided that these transmission utilities, both at the central and state levels, shall be functioning as Load Despatch Centres until a government company or an authority has been constituted by the central government or by the state government.

So, under the 2003 Act, it was clearly provided that there is a need to have an independent autonomous body which shall look into the activities related to Load Despatch Centre.

Now this Load Despatch Activities, as I said, initially was being looked after by the transmission utilities, then there is a government company which was constituted for taking care of transmission network, transmission utility power grid, power grid was carrying on the activities of the Load Despatch Centre and then finally, from power grid another company was being established having kind of parental control over that company by the power grid, i.e., Power System Operation Corporation Limited (POSOCO). POSOCO has now been given an independent status, the equity share has been transferred from power grid to the President, and now it has completely been given a distinct legal identity independent from power grid.

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When you look at the growth and development; as I said, because of the demand for electricity across the country, a need was felt to interconnect the whole country so that generation in one region can cater to the demand in another. And that is possible only when, these grids are inter-connected. The very idea to interconnect the grid, started in 1991 when eastern grid got connected with north eastern grid and then in 2003, the western grid got connected with the eastern gird and then 2006, the four grids got interconnected and finally in 2013, southern grid got connected with rest of the grids. Therefore, the very idea of one nation, one grid was achieved. Now this one nation, one grid is also important for mitigating

any situation where power failure takes place of extreme magnitude. In fact, the outage happened in 2012, which accelerated the need of one nation, one grid.

Since the grids are connected, the availability of electricity from one region to another region is very much possible, it is very much planned and this also very provisioning of connecting the grid across the country also sends a very strong message to all the investors. Whether they are investing in power market or they are investing in other infrastructural project, that this very interconnection can ensure sustainable quality supply of electricity.

This is why one nation, one grid becomes a very significant point. Initially, the Load Despatch Centre was conceived as a centre to look into the generating capacity and then plan the scheduling accordingly. So, it was more of a kind of management role, but then the nature of the role has been changed now.

The reason being, the private participation in the transmission sector because earlier what was assigned to transmission utility is now being given to independent body and for very obvious reason, i.e., if the transmission utility has a vested interest in getting the business obviously, that utility would not be deciding on a very fair term, possibly, It would be wrong to say that always that would be the case.

But then, because the transmission sector is also opened up for private participation, there would be a possible conflict between the utilities, which are already operating under the control of the government, and private players. Then it is the responsibility of Load Despatch Centre to treat the place in a very fair manner.

Apart from that, the very provisioning of open access as we have said, that under the 2003 Act, one of the remarkable changes brought in was to introduce open access to increase the competition in power market. Now, with this provision of open access, it is important that the players which are involved in transmission, players who are involved in distribution, they need to be treated in reasonable and fair manner, and this is what Load Despatch Centre would ensure. The Load Despatch Centre will also ensure a subtle distinction between transmission operator and system operator. Because earlier, when the utility was handling this task, they were into transmission as well as into system operation. They were channelising the transport of electricity from generating unit to the distribution licensees or the licensee, and then they were also into the operational issues. Now with the transmission utility being

asked to be competitive, there will be a conflict of interest. That is why it is suggested that there be a distinct entity to regulate the scheduling of the electricity.

Thus, the significance of the growth of Load Despatch Centre. Because Load Despatch Centre, they are into real time operations, what is the injection happening to the grid? Which all licensees have placed the demand? Whether someone is doing an over withdrawal? What shall be the monitoring for drawl of electricity? Monitoring the flow of electricity across the network and then maintaining reliability because there were the power to pass necessary directions becomes important. That if any player in the market deviates from the standard norm, then Load Despatch Centre is required to step in and ensure that the player is playing as per the agreed rule of the game and if not, penalty is to be imposed.

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- CG divided the country into different regions for efficient, economical and integrated transmission and supply of electricity – five regions (Sec. 25)
 - > Supply to licensees and consumers
- ➤ Three-layered structure of LDCs NLDC RLDC SLDC
- NLDC and RLDC to be established by CG and SLDC to be constituted by SG

So, under the 2003 Act, the legacy was continued, the central government has given the legal status to that division of the country into five different zones. So, the country was divided into five different zones, eastern, north-eastern, western, northern and southern zone.

These five regions were been given separate Load Despatch Centre known as Regional Load Despatch Centres. So, under Section 25 of the Act, this regional division was being done to ensure that the electricity gets supplied in a very efficient way, in a very economical way and also in a very integrated manner.

And to both licensee and the consumer. So, Load Despatch Centre has a role also towards the consumer, not only towards the licensee alone. The three-layered structures were been

planned, NLDC at the top, RLDC at the mid-level and SLDC at the bottom [National Load Despatch Centre, Regional Load Despatch Centre and State Load Despatch Centre]. The responsibility to establish National Load Despatch Centre and Regional Load Despatch Centre lies with the central government, whereas for State Load Despatch Centre responsibility lies with the state government and reasons are very obvious because electricity as a subject falls in the concurrent list. Therefore, there has to be a shared responsibility as per the understanding of the constitution which we have discussed in module one.

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- Function of LDCs (Secs. 28 and 32)
 - > Similar function for RLDC and SLDC
 - RLDC is an apex body to ensure integrated operation of power system
 - > GRID Code should be followed
 - Responsible for optimum scheduling and despatch of electricity
 - **➤** Monitoring of Grid operation
 - Exercise supervision and control over Inter State Transmission System

Now, what are the functions given to the Load Despatch Centres, Sections' 28 and 32 deal with Regional Load Despatch Centres and the State Load Despatch Centre respectively. Functions are very similar given to them. Regional Load Despatch Centres, they are considered as an apex body to ensure integrated operation. It is not NLDC; it is Regional Load Despatch Centre because there is a need to have stakeholder also from the States so, where the centralised institution may not serve the purpose which is being thought of.

That is the reason why RLDC, that is prior to the 2003 Act, as I have said, that has happened in way back in 1998, so the 2003 Act continued that structure. The RLDC has the responsibility to maintain the grid code, follow the grid code. Grid code is something which is to be given by the appropriate commission. Obviously, the electricity authority plays a role to advise on the technical specifications. Then Load Despatch Centre has the responsibility for optimal scheduling and dispatch of electricity that what is to be injected as I said, what is to be assigned; and then most important one is that, that overall supervisory role lies with

Load Despatch Centre in case of inter-state transmission system it is of RLDC, in case of intra-state, it is for SLDC.

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- ➤ RLDC is empowered to give direction and exercise supervision and control (Sec. 29) and similar power with SLDCs (Sec. 33)
 - > For ensuring Grid stability
 - > For achieving economy and efficiency in the operation
- Licensee and generating units are bound to comply with directions
- At state level the direction through SLDC
- CERC/SERC shall adjudicate dispute over quality of electricity or integrated operation of Grid

Now RLDC is also given necessary power to give directions and exercise supervision and control. This includes even giving necessary power to the State Load Despatch Centres. RLDC can give necessary direction even to SLDCs because at the end of the day, the coordination is needed through out the country. It is not only in one pocket or another pocket that is why RLDC has been rightly assigned this task. Because if this task is not being assigned to any institution there will be an issue with the stability in grid.

Licensee may draw more power than what that licensee is authorised for. Thus, cause instability, and we know very well that electricity is one product which cannot be stored. And therefore, the management becomes very scientific and very methodological. And RLDC can also issue necessary directions to licensee and generating units, and they are bound to comply with those instructions that RLDC would give. If RLDC gives a direction and if the licensee or generating units or the SLDC fail to comply then RLDC can impose fine.

Obviously, you can imagine if such power is being given under the law upon any authority, there may be chances of dispute, and for that, appropriate commission has been given authority to adjudicate the dispute. So, appropriate commission generally appoints an adjudicating officer to look into the allegation made and decides accordingly, and the penalty which is being suggested in the law is that for RLDC, the penalty RLDC can give up to 15 lakhs and for SLDC up to 5 lakhs rupees.

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- LDCs are prohibited from trading in electricity
- Financial autonomy CERC Fees and Charges Regulations
- POSOCO is a regulated entity vital link between administrators, planners and regulators on one end and physical system and market players on the other end

In order to maintain fairness to eliminate biasness, it has been suggested that Load Despatch Centre shall not be involved into trading activity, so that they should not have any interest at all. Now the question comes in that how do you ensure that they would act independently, they would not act under any influence. One factor which is always been looked at is of autonomy, financial autonomy because functional autonomy perhaps can be ensured by laying down a very well needed structure under the law.

But what about the financial autonomy, if they are depended on the government for all kind of financial requirement then there is a possibility that they may not act independently because government is also into power market, government is owning the generating units, government is owning the transmission utility. And therefore, it has been suggested that for financial autonomy let there be fees and charges which will be levied as suggested by the appropriate commission. Those fees and charges will help the Load Despatch Centres to get the status of autonomous institution. And perhaps, the things are moving in that direction.

Now when you look at the role of Load Despatch Centre, Load Despatch Centre plays a very critical role. It is a critical role in the sense that it, on the one hand, deals with statutory bodies like appropriate commissions, regulatory commissions, the government bodies like CA and all. On the other hand, it engages with generating units, engages with transmission licensees; it engages with distribution licensee, it engages with end consumer. So, Load Despatch Centres, they are playing a very vital role, vital role of hand-holding between the policymakers, the statutory bodies and the real players in the market generating units,

transmission licensees and distribution licensees. And therefore, it is advisable that the Load Despatch Centre conduct its affairs in such a manner so that some message should go to all that the rules are being framed and followed in a very fair way.

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- ➤ Intra-State Transmission Responsibility of the State Commission to promote transmission, wheeling and inter connection (Sec. 30)
- Optimal use of transmission facilities App. Commission may facilitate intervening transmission facilities to the extent surplus capacity (Sec. 35)
- App. Government may issue directions to RLDCs and SLDCs – smooth and stable transmission and supply of electricity (Sec.37)

As I said, inter-state transmission is with RLDC, intra-state transmission is the responsibility again with the SLDC, and the state government needs to provide this. It says it is the responsibility of the state commission to promote transmission, wheeling and interconnection within the territorial jurisdiction, and it is the responsibility of commission to see that how intra-state transmission networks works.

The law also says that if a transmission facility is having some surplus capacity, then appropriate commission can very well intervene and ask the surplus facilities to be used. Obviously, it will be used only for the intervening period and for that there will be separate charges to be levied, which has to be decided by the appropriate commission. So, the idea is, what is given in section 35, the idea is that, let the generated electricity not to be allowed to be go wasted. Let us ensure that the infrastructure is optimally used. Now, Section 37 becomes very important because Sec.37 is on the line of section 11 of the Act, which we have discussed where the appropriate government is allowed to give necessary direction to RLDC and SLDC.

Now, the point of departure from section 11 is, under section 11, you would find that it says such instructions are to be given by the appropriate government only when there is an extra ordinary circumstance and section 11 works in relation to generating units. But under section

37, it is for RLDCs; it does not talk about any extra ordinary circumstances. But it says that, the directions can be issued only for smooth and stable transmission and supply of electricity. But you can very well visualize that in general under the 2003 Act, state government or the central government has not been given any direct role to regulate the power market. So, wherever such power is given, it has to be exercised in a very circumscribed way.

Government needs to be extremely cautious before ascertaining the power under section 37 so that it should not defeat the liberalisation regime that has been achieved and planned under the 2003 Act. So, only to cater the political interest, section 13 should not be employed.

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Challenges -

- Changes in generation mix large scale integration of renewables
- > rapid increase of Grid participants
- Prosumers
- > Energy Storage
- Interconnection of grids with neighboring countries
- **Electric Vehicles**

These are the challenges which are there for the Load Despatch Centres. One challenge is the way energy mixes happening in this country. Considerable quantity of electricity has been injected into grid through renewables, and therefore, planning needs to be made accordingly. Because from the conventional sources, gestation period is generally quite high and therefore, considerable time is available to make the planning for transmission and for the grid operation.

But for renewables, because gestation period is not very high, electricity is available without much lapse of time, and therefore, accordingly grid needs to be prepared and planned; it is a challenge. So, the challenge is prosumer, wherein a new category of entity or individual is now acknowledged in the power market that is the consumer who is also playing the role of producer.

For example, someone who is setting up a solar power plant, he is consuming electricity from the grid as well as he is producing electricity for his own consumption. Then the challenge is from energy storage because there is scientific development going on for storing electricity. With the more generating capacity, there is a possibility of exporting electricity. Therefore, the plan to connect grid with the neighbouring countries and that brings in more challenges on the board, then the drive of promoting electric vehicles in the country. More electric vehicles obviously more stations required for charging them, and that certainly has impact on the grid operations. So, these are the important challenges which are there before this.

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- Maharashtra State Electricity Power Trading Corporation Pvt. Ltd. V. CERC APTEL 2009
- The appellant company was fully owned by MSEB **Holding Company**
- > The application to engage in trading was rejected by the Commission on the ground of conflict of interest
- ➤ MSEB Holding was also owning Transmission Company
- ➤ Held: Lifting of veil clearly establishes the interest

Now let me discuss few cases with you; this one is related to transmission. Maharashtra State Electricity Power Trading Corporation verses CERC, what happened in this case is that, the Appellant was fully owned by state electricity board's holding company and then this was engaged into trading. The question was raised whether it should be allowed to continue trading because it was also into transmission business. The court lifted the corporate veil to understand who owns the Appellant company, and then it was found that it is the company which is into transmission business and therefore, this company should not be allowed into trading business.

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- Vijay Ramchandra Agrawal v Power Grid
 Corporation of India Ltd. (WP No. 6412 and 7452 of 2010) MP HC
- ➤ The appellant objected the construction of tower for transmission of electricity on his land.
- Also, contended that alternative land is available and no consent was obtained
- Held: No consent is required u/s 10 read with sec. 164 – compensation may be awarded u/s 68 of the Act

There is another case which relates with right of way what we have discussed in the last session, where there was an objection to construct the transmission tower by the Appellant here Vijay Ramchandra, he said that, no consent was taken from me for constructing the tower. The court read the relevant section, section 10 of Telegraphs Act and section 164 of Electricity Act and said that, what is needed is to pay the compensation, but then the law does not say that, if the consent is not been obtained, then the transmission tower is not to be erected. You can very well, with these cases, understand how much importance is been given to ensure the smooth growth of electricity sector.

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Delhi Transco Ltd. V. CERC (2010 – APTEL)

- Appellant was the transmission licensee and designated as SLDC
- RLDC intimated the SLDC regarding the overdrawl of electricity – no tangible action was taken – punitive action u/s 29(5) against SLDC

> Held:

- Sec. 2(15) defined power system covers LDCs thus LDCs falls under the description of 'any person' u/s 29(2)
- ➤ Mere issuance of advisory to generating companies was not enough u/s 32 SLDC was responsible

This is a case against to SLDC, this is an interesting case, this is Delhi Transco verses CERC, what happened, in this case, is that, Delhi Transco being SLDC, was being warned by RLDC for over drawl that some licensees are over drawing the electricity which is making the whole over drawl below 49 hertz and generally for maintaining the proper scheduling it has to be 50 and above. Now, the RLDC gave warning to SLDC more than once, SLDC did not take any tangible action, or it did not take any concrete action. What it did that, it simply issued an advisory to the licensees that, see you are doing over drawl because of that grid is becoming unstable.

When RLDC approached the regulatory commission to take punitive action against SLDC, the regulatory commission constituted an adjudicatory body, they appointed an adjudicatory officer who, after looking at the response imposed fine, which was to the tune of 2.5 lakhs. The Appellant challenged this, the Appellant said that, we did whatever we are supposed to do under the law, we have issued advisories to the licensees, beyond that we cannot do anything, because appellant argued that they cannot simply switch off the supply because that would have resulted in the black out of large area. And therefore, this is what they can do maximum; i.e., of issuing the advisory.

Now, in this case, the SLDC also argued, that when you look at the language of section 29(2), which talks about the responsibility of SLDC and the power of the RLDC to give directions, it says that the direction can be given to any person, SLDC said that we are not any person, we do not fall under that definition of any person and we are neither generating company nor

into transmission licensee, transmission business or distribution licensee. Therefore, RLDC does not have jurisdiction to issue such directions.

Now, the court, in this case, looked in the definition of power system, which is given under Section 2 sub section 15, it says that, the definition is so broad, it very well covers Load Despatch Centres and Load Despatch Centres have a juristic status thus has got legal validity, legal status under the law and therefore it very well satisfies the criteria of being any person for the purpose of Section 29.2, moving further the court also said, that mere issuing advisory was not enough, the SLDC was having all authority to disconnect the line so that the grid should not have faced the instability. And thus, SLDC failed to fulfil the responsibility which was given under Section 32 and thus the imposition of fine was very much as per the law.

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M/S Meenakshi Energy Pvt. Ltd. V. CERC (2014 – APTEL)

- The appellant and M/S Simhapuri Energy Pvt. Ltd. was asked to develop common transmission for evacuation of power
- RLDC refused to consider them as two separate entities for the purpose of accounting on the ground of interface meters as regulated by CEA.

> Held:

- Dedicated transmission licence can be for two generating stations
- RLDC cannot abdicate power and function to any other authority

Another case wherein M/S Meenakshi and Simhapuri Energy Power Limited, they were having generating units, they were having power plants in the same locality, they were sharing the boundary and therefore, they approached the appropriate commission that they should be allowed to develop the common transmission line, appropriate commission allowed the same and when they have approached the Load Despatch Centre for considering them as a separate entity for the purpose of accounting, for the purpose of scheduling, then Load Despatch Centre refused to consider them as separate entity. Load Despatch Centre said that we do not have the metering facility at our end, and therefore, they need to be considered as one single entity.

In this case, the question was raised: Can two generating units develop one dedicated transmission line? The court looked into the necessary provisions of section 10 of the Act and said that nowhere it is been prohibited, nowhere it has been said that two generating units cannot have one dedicated transmission line, so the court has said that, this is very much permissible under the law.

On the issue of not considering them as two separate entities for the accounting and scheduling purposes, the court said that it was wrong on the part of the Load Despatch Centre to not adhere to that. The Tribunal said that they do have enough power under the law to make such arrangements, and because they are being governed under the Act, they cannot take the shelter of the metering regulations to not to fulfil their legal duties, not to fulfil their obligations which is clearly spelled out under either section 29 or section 32 of the Act. And therefore, in this case, the court held that RLDC was wrong in not allowing these two entities to be considered as two separate entities for the purpose of metering.

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M/S Indo Rama Synthetics Ltd. V. MERC (2011 – APTEL)

- Appellant has inadvertently injected 1.607 million units into the network of the transmission licensee from its CPP
- > Appellant has asked for compensation

> Held:

- Power was injected by the appellant without any schedule, contract or agreement or knowledge of SLDC and the distribution licensee
- > No legal provision to give compensation
- SLDC was not responsible to inform to the appellant about injection

Now, this is another case; this is another interesting case wherein what happened is that, M/S Indorama Synthetics Limited, it has injected certain quantity of electricity in grid. It injected the electricity in the grid without informing to the Load Despatch Centre, and then later, it asked for the compensation, it said that, I should be paid compensation because whatever electricity I have injected, was consumed.

So, the Load Despatch Centre looked into it and appropriate commission said that, because the injection has happened, it has suggested the compensation on the basis of low variable cost. Aggrieved by the decision, Indorama Synthetics said that ours electricity is based on costly fuel; it was a captive power plant, and therefore, it deserves higher compensation than what was decided by the regulatory commission. Now, matter came before the Tribunal, Tribunal looked into the legal provisions related to the responsibility of the Load Despatch Centre that whether the Load Despatch Centre has the responsibility to flag, that see there is injection of electricity happening which should not have happened.

So, looking into the legal provision, it said that it is very difficult to find out for the Load Despatch Centre, if generating unit is injecting electricity in grid without informing, because scheduling of electricity happens in advance. Every planning happens on that basis; therefore, it is not very, it is not possible for the Load Despatch Centre to keep the track of the injection of electricity. And in this case, Indorama Synthetics Company did not inform anything to Load Despatch Centre with regard to injection, and therefore, it was said, that SLDC cannot be held responsible to not to inform the Appellant about the injection because it was not brought to the notice of SLDC and SLDC does not have any mechanism to find out the injection of the electricity, the supply of electricity from generating units to the grid.

Moreover, the Tribunal also observed, but there is no legal provision in the law which allows the compensation to be paid in such situation. Therefore, whatever is been paid is fine; there is no question of entertaining the appeal of the appellant in this case. So, this is all about Load Despatch Centre; this is all about what the legal provisions are there and how it ensures independence of the Load Despatch Centre.

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> References:

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- ➤ Guide to the Electricity Laws, Naushir Bharucha, 5th Edn., Lexis Nexis, 2017
- Report on Evolution of System Operation with Emergence of POSOCO as an independent institution in India, published by POSOCO, January 2021

Thank you very much. These are the reference for this module.