The role of the electricity market management committee in the electricity market

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Abstract. With the continuous advancement of China's electricity market construction, the market has increasingly become the main means of resource optimization and allocation. In the construction of the electricity market, government agencies, power grid utilities and other market entities usually have different demands, and there are different opinions in the process of electricity market framework design and rulemaking. The electricity market management committee can serve as an important deliberative entity in the construction of the electricity market. This paper sorts out the current situation of the construction of China's electricity market management committee, and summarizes and analyses the functions of the electricity market management committee in the major electricity markets all over the world, which can serve as a reference for the construction of the China’s electricity market management committee.

1. Introduction

At present, China's electricity market is moving forward gradually. In 2018, China's market-oriented transaction power reached 1,618.7 billion kWh, a year-on-year increase of 32.5%. There are a total of 78,016 market entities, including power generation companies, power grid utilities, power retail companies and power users. Market-based power trading reduced the cost of electricity for customers by 5.39 billion dollar [1].

China's electricity marketization is an electricity market structure of “unified market and two-level operation” [2]. Taking one of the two major power grid utilities, the State Grid Corporation of China (SGCC) as an example, the Beijing Power Exchange Centre and the National Power Dispatching Centre are the inter-provincial medium and long term trading and inter-provincial spot trading executives respectively. The provincial Power Exchange Centre and Dispatching Centre of the provincial power grid utilities are the intra-provincial medium and long term trading and intra-provincial spot trading agencies, respectively. In China's intra-provincial electricity market, as an emerging and neutral institution, the electricity market management committee should play an important role.

In the construction of China's electricity market, in general, the electricity market management committee is an autonomous deliberative entity composed of market representatives registered in the Power Exchange by category and not receiving compensation from the trading institutions. The electricity market management committee is responsible for discussing and determining the rules of the trading institution, trading and operating rules, and coordinating matters related to the electricity market. The National Energy Administration and its dispatched agencies and relevant government departments may send personnel to participate in relevant meetings of the electricity market management committee by implementing reasonable voting mechanisms such as voting by market
entity category. The results of the deliberation of the electricity market management committee shall be implemented after being examined and approved, and the National Energy Administration and its dispatched agencies and relevant government departments may exercise the veto power.

2. The main obligations of electricity market management committee in China
The members of the market management committee usually come from power grid utilities, power generation enterprises, power sales companies, power users, etc., in order to maintain fairness, fairness and openness of the market, fully embody the wishes of all parties and protect the legitimate rights and interests of market participants. The electricity market management committee implements a reasonable deliberation mechanism such as voting by market entity category. The electricity market management committee is responsible for discussing the rules of the trading institution, trading and operating rules, and coordinating matters related to the electricity market. The national energy regulatory authority may send personnel to participate in relevant meetings of the electricity market management committee. The results of the review of the market management committee should be implemented after the examination and approval, and the national energy regulatory authority may exercise the veto power.

In light of the existing policies in the construction of China's electricity market, the main duties of the electricity market management committee include:
- Study and discuss the formation plan and charter of the trading institution;
- Research proposes electricity market construction proposals, participate in drafting (revision), study and discuss electricity market operation rules and related implementation rules;
- Research senior managers of recommended trading institutions;
- Organize relevant meetings to study and discuss important issues involving the interests of market entities, listen to market entities' demands, and make reasonable opinions and suggestions;
- Supervise the operation of the electricity market and the implementation of trading rules, and reflect them in a timely manner;
- According to the needs of the work, the government department and the market entity are authorized to perform other duties.

3. Current situation of electricity market management committee in China
As shown in Figure 1, as of June 2019, among the 27 provincial power utilities of the SGCC (see the green and yellow provincial parts in Figure 1), 21 provincial power utilities have set up the electricity market management committee, shown as the green area in Figure 1. At the national level, several provinces have drawn up plans for the formation of electricity market management committee, while others have yet to act. However, only the provincial power market such as Shanghai and Hebei South Network currently determines the specific way in which the electricity market management committee participates in the electricity market.
Figure 1. Business regions with management committee distribution.

Representatives of the market management committees in China's provincial power market come from power grid companies, power generation companies, users, power sales companies, third-party institutions, trading institutions, and industry experts. The Secretariat is usually set up in the Power Exchange Centre. The voting mechanism usually votes by representatives’ number or representatives’ category.

4. Foreign experience of electricity market management committee
From the operational practices of power trading institutions in countries such as Northern Europe and the United States, there are market management/recommendation committees or similar functions in power exchanges in national/regional markets. Usually, the market management committee of foreign power trading institutions accommodates the participation of various market members, such as power producers, power distributors, distributors, electricity sellers, power users, financial institutions, energy companies, consulting companies, dispatchers, and transactions. Institutions, government departments, etc., are jointly formed to negotiate and determine critical issues in the operation of power trading institutions and power market organizations.

4.1. Nordpool
The Advisory Board of Nordpool consists of electricity traders and industry representatives involved in the Nordic electricity market Nordpool. It is responsible for advising and consulting the Nordic power trading company's business and work [3].

4.2. PJM in the United States
As a power dispatching and trading integration agency in the United States, PJM has committees to discuss various issues. After all the market members participating in the PJM power market sign the grid-connected agreement, they can become full members of one of the distributors, generators, sellers,
distributors and power users, and have voting rights in each committee. If a PJM member has any suggestions or disputes for the revision of market rules or market operations, it may apply for a proposal in its subordinate committee. Then the management committee could vote for the proposal and submit it to the higher level committee until the highest level market committee passes.

5. Suggestion of electricity market management committee in China
The electricity market management committee should be a non-profit organization with an open and transparent operation. The electricity market management committee should be as neutral as possible. Therefore, the voices of the parties in the market management committee should be checked and balanced in the major issues such as the formulation and revision of market rules. Ideally, the market management committee is composed of non-market entities, e.g., members of independent institutions. Members of the electricity market management committee may have served in certain institutions, but are not involved in the transaction currently, with no direct interest. They should have a certain tenure and re-elect after expiration.

6. Conclusion
This paper introduces the main responsibilities of the electricity market management committee and the current situation of the establishment of the China electricity market management committee. The situation of the electricity market management committee in countries such as Northern Europe and the United States was introduced. Finally, the corresponding recommendations were made to China's establishment of the electricity market management committee.

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