Impact of Transmission and Distribution Price Reform on Assets and Management of Power Grid Enterprises

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Abstract: With the continuous deepening of China's new round of power system reform, the transmission and distribution price verification and reform pilots have been continuously promoted, and the transmission and distribution price reform has been rolled out in an orderly manner nationwide. The profit model of power grid enterprises has undergone major changes. It has brought important influence to the management and management fields of power grid enterprises such as investment and financing management, fixed asset management and cost accounting. In order to meet the reform requirements, grid companies need to adjust their investment strategies in a timely manner, consolidate fixed asset management, and study effective cost management methods under the new price system, and actively strive for a reasonable electricity price policy for enterprises. To this end, this paper further analyzes the comprehensive impact of transmission and distribution price reform on grid enterprises by combing the process of transmission and distribution price reform and the main content system.

Keywords: Transmission and Distribution Price Reform; Power Grid Enterprises; Assets; Management

1. Analysis of the content system and development of China's transmission and distribution price reform

1.1 The introduction and development of transmission and distribution price reform

On March 15, 2015, the "Opinions of the Central Committee of the Communist Party of China and the State Council on Further Deepening the Reform of the Electric Power System" (No. 9 Document of the State Council) was officially issued, marking the launch of a new round of power reform in China. The primary issue of the recent key tasks of the new round of power system reform is “orderly promotion of electricity price reform and rationalization of electricity price formation mechanism”. The basic requirements are as follows: First, the transmission and distribution price is separately approved, and the scope of government pricing is mainly limited to Important public utilities, public welfare services and natural monopoly links. The government mainly approves the transmission and distribution prices and announces them to the public to accept social supervision. The transmission and distribution price gradually transitioned to the principle of “permitted cost plus reasonable income”, and the voltage level was approved. The user or the power selling entity pays the fee according to the transmission and distribution price corresponding to the grid voltage level to which it is connected. Second, the price of electricity sold outside the public welfare step by step is formed by the market. Let go of the competitive price of electricity, and separate the transmission and distribution price from the selling price. Reasonable determination of biomass power generation subsidy standards. The on-grid price of power generation enterprises participating in the electricity market transaction is determined by the user or the main body of the electricity sales and the power generation enterprise through negotiation and market bidding. The price of electricity purchased by users participating in the electricity market transaction consists of three parts: market transaction price, transmission and distribution price (including line loss) and government fund. Other on-grid electricity that does not participate in direct transactions and bidding transactions, as well as residents, agriculture, important utilities, and public service services, continue to implement government pricing. The third is to properly handle the cross-subsidy of electricity prices. In conjunction with the electricity price reform process, it will support the cross-subsidization between different types of electricity prices. During the transition period, the grid enterprises declare the amount of cross-subsidy between the various types of user electricity prices, and recover them through the transmission and distribution price.

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In November 2014, the National Development and Reform Commission issued the “Notice on the Pilot Reform of Transmission and Distribution Price in Shenzhen”; at the end of 2014, the National Development and Reform Commission will use the Inner Mongolia Western Power Grid as a pilot for transmission and distribution price reform; in 2015, the National Development and Reform Commission issued a clear request, each The party accelerated the reform of transmission and distribution prices, and further expanded the pilot scope from Shenzhen and Mengxi power grids to the power grids of Anhui, Hubei, Ningxia and Yunnan provinces; in March 2016, the National Development and Reform Commission for Anhui, Hubei, Ningxia, Yunnan and Guizhou The five provinces and autonomous regions will approve the transmission and distribution prices of the provincial power grids from 2016 to 2018, and will be in 12 provinces and cities including Beijing, Tianjin, Weinan, Weibei, Shanxi, Shaanxi, Jiangxi, Hunan, Sichuan, Chongqing, Guangdong and Guangxi. Level Grid; In August 2016, the National Development and Reform Commission (NDRC) will start the reform of the transmission and distribution price of 14 provincial-level power grids scheduled for 2017 to be launched in September this year, basically achieving China's transmission and distribution price reform content system.

1.2 Core Tasks and Overall Objectives of Transmission and Distribution Price Reform

“Separately approved transmission and distribution price” is one of the key tasks of the recent promotion of power system reform proposed by “No. 9 Document”. The government mainly approves the transmission and distribution price and announces it to the public and accepts social supervision. The transmission and distribution price gradually transitioned to the principle of “permitted cost plus reasonable income”, and the voltage level was approved. The user or the power selling entity pays the fee according to the transmission and distribution price corresponding to the grid voltage level to which it is connected. The separate verification of transmission and distribution prices is a highlight of this electric power reform. This breakthrough has changed the traditional profit model of grid companies to collect the difference in purchase price, which is not only related to the healthy development of the power grid, but also related to the deepening of electricity price reform and electricity. Optimized configuration of resources. At the same time, it is conducive to the open, fair and non-discriminatory opening of the power grid.

The reform of transmission and distribution price puts forward the overall goal of development and construction: establish an independent transmission and distribution price system with clear rules, reasonable level, strong supervision and scientific transparency, and form a transmission and distribution price formation mechanism to ensure the safe operation of the power grid and meet the needs of the power market. Restore the attributes of electric power products, in accordance with the principle of “permitted cost plus reasonable income”, verify the permitted total revenue and voltage-level transmission and distribution prices of grid enterprises, clarify government funds and cross-subsidies, and announce to the public and accept social supervision. Improve the constraints and incentives for power grid enterprises, promote grid enterprises to improve management, reduce costs and improve efficiency.

2. Impact of transmission and distribution price reform on financial management of power grid enterprises

2.1 Impact of Transmission and Distribution Price Reform on Investment Management of Power Grid Enterprises

Before the reform, the grid enterprises were responsible for their own profits and losses. The grid investment cost was compensated in the difference between the purchase and sale. The grid investment funds were raised by the enterprises themselves. The enterprises dominated the grid project investment decision and investment cost control, and the government intervention was less. In the process, the macroscopic aspects of project planning, land acquisition, hydrology, environmental protection and other pre-projects will be examined and approved, and there will be less attention to the micro-level aspects such as specific investment return rate, investment cost control and other project construction, commissioning, operation and maintenance, and retirement. After the reform, the transmission and distribution price level is closely related to the grid investment cost. The current investment cost affects the future operating cost. The larger the grid investment, the higher the depreciation

expense and operation and maintenance cost in the future, and the higher the cost of transmission and distribution. . The government's investment control in transmission and distribution assets has become more apparent, mainly in the following aspects: First, strengthen grid planning. Only projects approved by national or local planning, approval and approval can be included in the transmission and distribution permit costs. The second is strict investment cost supervision. The cost supervision and examination department regularly supervises the investment cost of the power grid and eliminates unreasonable expenditures.

2.2 Influence of Transmission and Distribution Price Reform on Financing Management of Power Grid Enterprises

The power industry is a capital-intensive industry. To continue to develop power grid enterprises, it is necessary to continuously strengthen the power grid construction. The huge investment is guaranteed by the level of financing of the company. The issuance of bonds and bank loans is currently the main financing method for power grid enterprises. It has the characteristics of low cost and short term. It is guaranteed by the current reliable and stable cash flow of power grid enterprises. After the reform of transmission and distribution price, the grid enterprises will charge the network fee according to the government's approved price, instead of the current sales price. The rapid decline in cash flow from the sharp decline in operating income and the low-interest financing methods such as pre-receiving electricity charges will be unsustainable. It has brought huge impact to the financing management of grid companies. The financing strategy of grid companies needs to be further adjusted.

2.3 Impact of Transmission and Distribution Price Reform on Fixed Assets Management of Power Grid Enterprises

Under the cost plus income management mode, the verification of effective assets is crucial to the survival and development of power grid enterprises. The composition of each type and voltage level will determine the level of classified electricity prices and guide the electricity selection through price signals. Therefore, the government will tighten the scope of effective assets, permitted income and permitted costs, and the current asset management system such as fixed asset depreciation policy, overage asset management, consistent management of accounts, fixed asset management granularity, and asset renewal strategy. All need to adapt to regulatory requirements.

2.4 Influence of Transmission and Distribution Price Reform on Cost Management of Power Grid Enterprises

Under the existing business model, the cost of purchasing electricity accounts for a high proportion of the cost of power grid enterprises, which is the focus of cost management of power grid enterprises. Under the new reform mode, depreciation of transmission and distribution assets accounts for a high proportion of total costs, which is the focus of cost management of power grid enterprises. The “Measures for the Supervision and Examination of Transmission and Distribution Pricing Costs (Trial)” requires grid companies to accurately record and reasonably collect the production and operation cost (cost) data of transmission and distribution according to voltage levels, services and user categories. At present, the cost of “transmission and distribution cost” is set in the cost accounting of grid enterprises, and the cost of all voltage levels and user categories is not included in the national transmission and distribution cost supervision and audit requirements. The transmission and distribution price reform requires grid companies to change the current accounting model, and it is necessary to allocate cost (depreciation expense and operation and maintenance fee) at each voltage level.

3. Analysis of financial management countermeasures for power grid enterprises under the background of transmission and distribution price reform

3.1 Strengthen investment management of transmission and distribution grids and increase investment recognition rate

Grid assets come from investment projects. To strengthen asset management, we must first check the source of investment. Study reform policies and strengthen investment plan management. Power grid enterprises should improve the forward-looking and accuracy of investment planning, ensure that grid investment planning and

annual comprehensive plans are linked to new effective assets and permitted total revenue recognized by government regulatory authorities, and ensure that projects included in investment planning are recognized by government departments.

Coordinate with infrastructure and production departments to speed up check and check of construction in progress. There are many departments and links involved in power grid construction, and the project implementation process has a long time span, which has caused some projects to be completed and not settled in time. Some projects have been completed and put into operation for a long time, and they cannot be depreciated and included in the distribution. Electricity permits costs. The reform of transmission and distribution price will promote the grid enterprises to speed up the clean-up of projects under construction: First, the outstanding projects have been completed. The financial department shall identify the reasons, prepare the final report of completion in strict accordance with the requirements, accurately determine the value of the assets, and timely correct the value of the asset cards. The second is the project that has not been put into operation. The finance department shall coordinate the engineering construction management department and the project construction unit to speed up the progress of the project, ensure that the project can be completed and put into production as scheduled, and be included in the scope of transmission and distribution assets, so that the project investment cost can be effectively compensated as early as possible in the transmission and distribution price. The third is to ensure that the existing power grid planning and investment plans are approved by the regulatory authorities, and that the effective assets for transmission and distribution in the future will be considered.

Relying on the financial management of the whole process of the project, the project will be fully implemented. The financial management of the whole process of the project refers to the management of the whole life cycle of the project including the project management, feasibility study and investment plan, preliminary design, bidding, project implementation, completion acceptance, settlement and final settlement, and post-project evaluation. The project final settlement is a summary document that comprehensively reflects the project investment, construction results and financial status, and is the main basis for approving the value of new assets. The timeliness and accuracy of the final accounts of the project will have a significant impact on the identification of effective assets of the grid, the approval of the transmission and distribution assets, and the level of transmission and distribution prices.

Depending on the financial management of the whole process of the project, the grid enterprise can use the information technology to implement the automatic completion of the project, which can automatically collect the cost of the project, realize the automatic allocation of expenses, and automatically issue the final report, improve the integrity and accuracy of the transfer of the card. The panoramic view shows the relationship between the completed assets, commissioning equipment and input materials, which will help to further strengthen the fund management and cost control in the whole process of project construction, contribute to the value management of the asset life cycle, and also help the government to supervise. The department effectively identifies the value of the assets, thus laying a good foundation for the enterprises to actively strive for a reasonable price policy and improve the investment and operation efficiency of the power grid.

3.2 Strengthen the management of fixed assets management accounts, effectively reflecting the transmission and distribution assets

According to the current transmission and distribution price reform plan, the government approves the transmission and distribution permit costs based on the effective assets of the grid. Therefore, whether the existing fixed assets of the power grid can be effectively and timely identified as power transmission and distribution related assets will directly affect the power grid enterprise's transmission and distribution price verification level and operational efficiency.

Carry out the inspection of fixed assets. When grid enterprises adapt to the reform requirements, they should carry out asset inventory and effectively find out the "home bottom". The financial department will conduct a thorough investigation of the physical conditions of the site with the physical management departments such as

transportation inspection, safety supervision, and logistics, and have no accounts and no assets. It is not possible to clean up the assets to be scrapped in time, and to smooth down the property rights relationship of assets. At the same time, the card information is updated in real time for asset replacement and transformation, and the information of the account card is kept consistent, and the asset management basis is consolidated. Refine asset classification. Grid enterprises should, in accordance with the scope of effective assets for power transmission and distribution pricing, use the tools of automatic completion and final management information system to adjust asset catalogues, refine the classification of regulatory assets and non-regulated assets, strengthen the classification management of fixed assets, and distinguish between effective assets and other assets and stock assets. And new assets, and management of regulated transmission and distribution lines and power distribution equipment according to voltage levels.

3.3 Studying cost management under the new price mechanism

According to the definition of effective asset range for transmission and distribution pricing, grid companies should study and refine the division of regulatory assets and business, non-regulated assets and business scope, and explore the gradual implementation of separate management of regulatory and non-regulated businesses. At the same time, we will study the method of refining the cost of power transmission and distribution, improve the cost collection and disclosure system through advanced means of informationization, and explore the gradual realization of the current classification by cost attribute to economic activity (sub-production cost, management cost and sales). Cost, etc.) The cost collection method is further refined to the integrated level according to the voltage level, the classification depreciation, the classification and accounting maintenance operation and maintenance cost, and the refinement level of cost management, and on the basis of satisfying the supervision, for the enterprise Reasonable transmission and distribution price level.

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