



Design of Normal Long-term Management Mechanism for Power Grid Construction

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Abstract. Power grid infrastructure is the core carrier of energy security, with long project cycle, wide cross-domain collaboration and fast technical iteration. It is difficult to achieve closed-loop management and control of the whole chain only by phased measures. Constructing a normal and long-term mechanism for power network construction is an inevitable choice to adapt to the long-term, complex and strategic nature of distribution network infrastructure, break the bottleneck of short-term governance and build a solid foundation for sustainable development. This study analyzes the basis of the construction of normal long-term mechanism in power grid construction, and puts forward the construction method of normal long-term mechanism including the main links of problem input, situation identification, structure transformation, optimization and improvement, performance output and so on.

Keywords: Power Grid Construction, Normal Long-term Effect, Management Mechanism, Experience Solidification.

1 Introduction

Power grid construction is an important process that forms the material foundation of the power grid and plays an important role in promoting the high-quality development of the power grid. At present, power grid construction has entered an extraordinary development stage, and the difficulties and challenges brought about by the continuous growth of construction scale have become increasingly prominent. The construction profession urgently needs to systematically plan related work and formulate effective solutions. In recent years, the power grid construction profession has carried out a large number of innovative activities in professional management and construction methods, and accumulated a lot of valuable experience. Summarizing and solidifying existing experience and applying it on a large scale will greatly improve the efficiency of power grid construction and management. How to transform effective measures into normal and long-term mechanisms will be the key to consolidating the results of innovation activities over the years.

Zhang Wei et al. (2025) believe that value pursuit, normal mechanism and action logic in the party history learning and education activities for college students are the basic dimensions to examine the activity, and images and scenes are the basic strategies

to build the normal and long-term mechanism of the activity^[1]. Liu Qing (2022) analyzed the current situation of deepening the integration of industry and education, and initially explored the implementation path of the long-term mechanism for the integration of industry and education^[2]. Yang Xue (2022) believes that to promote the construction of civilized cities, we should focus on the publicity and education mechanism of socialist core values, the organization and development mechanism of volunteer service activities, and the creation mechanism of civilized villages and towns^[3]. Fan Bichen et al. (2020) believe that the development process of green finance requires the establishment of an effective long-term development mechanism, which not only caters to the development of the times, but also further lays the foundation for the development of green economy^[4]. Zeng Qingjie (2020) believes that in the process of normalizing and long-term development of poverty governance, attention should be paid to establishing a sustainable system to ensure the connection of cadre resources and poverty-stricken areas, and to achieve the universalization of policies that benefit the people^[5]. Liang Xiaojun (2020) analyzed the development status, existing problems and causes of my country's real estate industry, and put forward strategic suggestions for the construction of a long-term real estate mechanism under the new normal^[6].

This study analyzes the basis of constructing the normal long-term mechanism of power grid construction, and puts forward the method of constructing the normal long-term mechanism, so as to guide the improvement of management efficiency of power grid construction under the extraordinary development stage.

2 Conditions for the Construction of Normal Long-term Management Mechanism for Power Grid Construction

In terms of publicity and mobilization, resource allocation, goal setting, incentive and assessment, etc., innovation activities in power grid construction management over the years have shown the characteristics of "movement-style governance" to a certain extent. Its advantage is that policy initiatives are taken to complete urgent governance tasks, and a large number of bright practices and management experiences emerge. With the completion of the annual key tasks, there is still a lack of practical guarantee as to whether the policy initiatives adopted by each enterprise can continue to be effective. It has strong practical significance to promote the transformation of management innovation activities from campaign-style governance to a normal long-term mechanism.

The requirements for large-scale, high-intensity, and high-quality power grid construction have long-term characteristics. As the construction of new energy systems and new power systems accelerates, currently and for a long time to come, the scale of power grid construction tasks remains high, the construction environment becomes increasingly difficult, there is an urgent need for innovative research, and quality and efficiency requirements continue to increase. The power grid construction environment presents long-term characteristics of dynamic changes rather than short-term characteristics of static stability. The resources and effects of some short-term governance mech-

anisms are difficult to adapt to the long-term evolution of the extraordinary development stage, and may even lead to high construction professional management costs. It is necessary to build a normal long-term mechanism to promote high-quality development of the power grid based on dynamic thinking, and design a forward-looking management system based on the characteristics and essence of power grid construction.

Power grid construction has complex characteristics due to tight resources, high technology, and difficult management and control. The intertwined situation of tight construction resources, complex technical routes, increasing difficulty in management and control, and multiple conflicts of interests shows that the high-quality development of power grid construction is not a simple list of problems, but is characterized by complexity. Faced with the difficult challenges of extraordinary development, power grid construction still has inadequacies in terms of resource coordination, construction capabilities, technical capabilities, management capabilities, and team quality. Therefore, a normal long-term mechanism is needed to continuously promote the collaborative integration of professional management such as safety, quality, planning, cost, technology, environmental protection and water protection.

The construction professional style of ensuring implementation, emphasizing practice, and being good at summarizing has plasticity characteristics. After "exploration and trial-error" in the innovative activities of power grid construction management, the construction major closely focused on national and corporate strategies, clarified the core issues of high-quality development of power grid construction, promoted the continuous improvement of power grid construction governance structure, and realized the value of "practice for truth". In a new stage of extraordinary development, power grid construction is faced with new problems of stabilizing existing performance and resolving current contradictions. If the governance structure is solidified, it will inevitably bring about the risk of cost superposition and performance loss. The valuable practical experience accumulated at all levels, units, and majors has enriched the theoretical connotation and practical measures of the power grid construction professional development ideas, and laid a solid governance foundation for the formation of a normal long-term mechanism.

3 Logic and Path of Building Normal Long-term Management Mechanism

The construction of a long-term mechanism for normal power grid construction is a process of transformation from short-term effective governance to long-term high-level governance, including major links such as problem input, situation identification, structural transformation, optimization and improvement, and performance output.

3.1 Question Input

Use the long-term mechanism of normal power grid construction to achieve dual goals. The first is to meet the mutation improvement requirements. As the construction of new

energy systems and new power systems accelerates, power grid construction has entered an unconventional development stage of large-scale centralized construction, high-intensity innovative research, and high-quality transformation and upgrading. This requires a sudden improvement in the level of power grid construction management to cope with unconventional difficult challenges. The second is to follow the law of advanced evolution. With the successful completion of the goals of the power grid construction and management innovation activities, all sectors of society and all parties involved in the construction have higher expectations for the improvement of the power grid construction management system, the improvement of management capabilities, and the enhancement of management resilience. They must take advantage of the momentum to promote the transition of the power grid construction management system to a high level to better serve high-quality development.

3.2 Situation Recognition

The normal long-term mechanism for power grid construction can match the new situation of power grid construction. The first is to determine whether the new situation has the conditions to build a normal long-term mechanism. The situation and environment for high-quality development of power grid construction have long-term and complex characteristics, and its governance objects have plasticity characteristics, which meet the needs and conditions for building a normal long-term mechanism. The second is to determine whether there are ways to improve the efficiency of building a normal long-term mechanism under the new situation. The existing power grid construction and management mechanism cannot fully match the requirements of extraordinary development and is not fully suitable for the construction of a normal long-term mechanism. The time for the short-term mechanism to transform into a normal long-term mechanism can be shortened by refining the experience of management innovation activities and learning from the experience of external units.

3.3 Structural Conversion

The current mechanism must be transformed into a normal and long-term mechanism for power grid construction through steps such as goal decomposition, structural reconstruction, and functional modification. The first is to break down the macro vision goals into specific task goals. First, determine the objects for the construction of a normal long-term mechanism, including not only the practical problems of power grid construction, but also the functional positioning and interactive relationships of all parties involved in the construction. Secondly, determine the overall goal of building a normal long-term mechanism and clarify the main direction of building a normal long-term mechanism. Finally, the overall goal is dismantled based on the results of object recognition. It can be split vertically according to professional divisions or horizontally according to hierarchical divisions, and the implementation of the implementation of the mechanism can be implemented with the help of the basic improvement mechanism of the infrastructure management structure. The second is to reconstruct the old governance structure into a high-level governance structure. First, based on the results of goal

decomposition, the existing power grid construction management mechanism is disassembled layer by layer to ensure that each sub-goal has a corresponding set of sub-mechanisms. Secondly, if sub-mechanisms are missing, it is necessary to learn from other similar governance structures, including the excellent practices of grass-roots units, the company's other professional management mechanisms, and the management mechanisms of external units. Finally, the borrowed sub-mechanisms are combined with the original sub-mechanisms to form a new governance structure. The third is to revise the functions of the new governance structure. Although each set of sub-mechanisms can solve sub-goals correspondingly, the new governance structure is mechanical and may cause friction and functional hedging. Therefore, sub-mechanisms with similar functions or without substantial value need to be eliminated; for multiple sub-mechanisms with large friction losses, the order of arrangement needs to be adjusted or connection elements need to be added.

3.4 Optimization and Improvement

Provide continuous corrections and resource support to the institutional rules of the normal long-term mechanism for power grid construction. To ensure the sustainable effectiveness of the normal long-term mechanism for power grid construction, it is necessary to use systems to solidify the new governance structure so that the operation procedures of the mechanism proceed according to the predetermined pattern. However, the effectiveness of governance may lead to the formation of path dependence among the parties involved in the construction under the influence of systems and rules. When the external situation does not match the existing situation, it will be tailored to fit the existing situation rather than adjusting the existing mechanism. In order to avoid the above problems, continuous correction of institutional rules and resource support are needed. The first is the continuous innovation mechanism. Summarize the experience and lessons learned from the construction of existing mechanisms, introduce advanced governance concepts, eliminate old mechanisms, supplement new ones, and update the framework of normal long-term mechanisms. The second is to continue to replenish resources. Based on actual needs, authoritative resources, human resources, material resources, information resources, etc. are embedded into the structure of the normal long-term mechanism to provide momentum for the operation of the mechanism.

3.5 Performance Output

Give full play to the important role of the normal long-term mechanism of power grid construction in serving high-quality development. The normal long-term mechanism for power grid construction has both resilience and flexibility. It can not only adapt to the impact of uncertainty, but also continue to improve as the situation changes. The core goal of the normal long-term mechanism is to fully realize the functional role of power grid construction in serving the country and the high-quality development of the power grid.

4 Conclusion

Under the extraordinary development stage, the scale of power grid construction tasks has increased sharply. Only by fully promoting and utilizing existing valuable experience can the efficiency of project construction management be improved. This study comparatively analyzes the basic conditions for the establishment of a normal long-term mechanism for power grid construction, scientifically dismantles the construction of a normal long-term mechanism from five key links, and proposes a general paradigm for the construction of a normal long-term mechanism.

In the next step, it is necessary to combine the overall goals and sub-goals under the extraordinary development stage, sort out and analyze various practical mechanisms from the perspective of professional management of power grid construction, select the best from the best, and actively learn from the useful management experience of external construction units and other majors within the enterprise, deepen the normal long-term mechanism of power grid construction, and serve the continuous improvement of the power grid construction system.

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