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Research on Deepening of Power Engineering Cost Management

Xiao Xue, Nan Zhe, Sun Mingze

State Grid Liaoning Electric Power CO, LTD. Power Electric Research Institute, Shenyang, Liaoning110015, China;

ABSTRACT. *With the continuous advancement of the "three episodes and five majors" construction work of Liaoning Company, the economic research institutes of various provinces in Liaoning Province have continuously expanded their core business functions and achieved good results. However, in the process of decentralizing the evaluation authority of the Institute, there are some problems such as the gap between the business level of the local research institutes and the duties assigned by the "five major" system. In order to effectively support the construction of the "three episodes and five majors" system, the project review authority has been successfully completed, and the Liaoning company's technical management work has been completed in an orderly and high-quality manner. The State Grid Liaoning Institute of Economics and Technology has adapted to the new situation and is based on actual conditions. Innovative ideas, meticulous organization, take the lead in adopting small-scale centralized training and training methods for the technical training staff of the Municipal Economic Research Institute, the principles and standards for the technical review of power grid projects, and the excellent technical management experience of the State Grid Institute of Liaoning Institute of Economics It has been promoted and achieved remarkable training results, which is worthy of promotion.*

KEYWORDS: *Power engineering; project costs*

1. Problem Diagnosis

Through the improvement of the "five major systems", the company's technical management has formed a full-coverage management mode of "technical division of labor, hierarchical management, vertical integration, and horizontal coordination". In the horizontal direction, it has realized all-round coverage of large and medium-sized infrastructure, technological transformation, rural power grid, small-scale infrastructure, new residential community power supply projects, science and technology projects, and information projects; in the vertical direction, it has realized preliminary feasibility study estimates, preliminary design estimates, The whole process of project management of full-caliber settlement. On this basis,

by strengthening the lean management and standardization of technology, the fundamental transformation of cost management from fragmentation to coordination and from extensive decentralization to centralized lean mode has been realized. The technical and technical majors play a professional support role in the key aspects of project management such as feasibility study, preliminary establishment, material procurement, bidding, and project settlement in the early stage of the project. The company's technical management system has been gradually improved, and a large and medium-sized project cost management team based on the provincial and municipal company's infrastructure departments has been established; the engineering cost management technical support team based on the provincial economic research institute and the municipal economic research institute[1-3].

With the comprehensive construction of the “Three Episodes and Five Majors” system entering a critical stage, the technical support scope of the Municipal Economic Research Institute has also expanded significantly, but the professional knowledge and basic skills of the technical research management members of some of the municipal economic research institutes are still unable to meet the needs of the work. The knowledge structure and technical capabilities of employees must be fully upgraded to meet new responsibilities.

2. Management Improvement Goals

In order to meet the requirements of the company's "group operation, intensive development, lean management, and standardization construction", the "two transformations" were further promoted, and the "three sets and five majors" system was fully supported. The Liaoning company's technical management was "horizontal." Azimuth coverage, vertical process control, as the goal; to improve the quality of engineering estimates, general and settlement; focus on expanding standard management and standard management and control functions; promoting the application of infrastructure construction and construction results; promoting the company's cost management The change from summary settlement type to process control management makes the company's cost management standard uniform, efficient operation and strong supervision, and improves the company's investment efficiency and efficiency[4-7].

2.1 Leaning supports the construction of the "three episodes and five majors" system

In accordance with the requirements of the “Three Episodes and Five Majors” system construction plan of the State Grid Corporation and the provincial company, combined with the actual situation of the State Grid Liaoning Institute of Economics and Research, the completion includes: training personnel selection, review principle refinement, training program formulation, training project selection and other aspects. The TEC is strictly implemented in accordance with the established training program, clarifying the training objectives, the training subjects are ready to be refined and detailed, and the training work is in place[8-10].

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2.2 Standardization Support for the Construction of the "Three Episodes and Five Majors" System

With the further advancement of the "three episodes and five majors" system construction, the technical management pattern of Liaoning Company has been promoted in the State Grid system. The technical management work of the Institute has begun to take effect, the workflow is standardized, and the management system is standardized. Document templating, and normalizing the rolling mechanism of the standard system.

In order to ensure the orderly development of the training work, the Technical Center of the Liaoning Institute of Economics and Research of the State Council has organized training seminars for many times and selected outstanding experts to participate in the development and training of training programs. Through the rolling revision of the review principle, the unified evaluation criteria, in the multiple rotation training, the training content was unified, the evaluation principle standard, and the review template specification.

2.3 Implementation guarantee

In order to ensure the orderly development of the rotation training and ensure the smooth connection between the rotation training and the assessment work, the State Grid Liaoning Institute of Economics and Technology has raised various forces and adopted various measures, including: training experts to optimize and optimize the evaluation standards. Improve the training work system and provide guarantee for the smooth implementation of the rotation training work.

Training expert organization optimization: set up a training working group, clarify the division of labor for the training of technical personnel in the center, and establish an effective communication and support mechanism. Convene training experts to conduct demonstrations and simulations to ensure uniform training standards and review template specifications.

Optimize the evaluation standard specification: According to the needs of the training content, combined with the feedback of the training work, continuously update the existing training program to ensure that the standardization function of the evaluation standard is effectively implemented, and the management experience is effectively promoted.

Improve the training work system: optimize the training process of the technical and economic center, clarify the job interface between the training work and various departments and professional units, and ensure the orderly development of the review work. Refine the internal division of work of the training working group, strengthen the effective connection between the evaluation work and the training work, and ensure the smooth work of the center and other management departments.

3. Main Practices

In order to ensure the high-quality completion of the "three sets of five major" system construction tasks, effectively improve the province's technical management level, strengthen the business guidance and training of the Institute's technical personnel, unify the Liaoning Power Grid technical professional evaluation principles, promote the province With the excellent management experience of the Institute, the State Grid Liaoning Institute of Economics and Research conducted a batch of centralized training for the technical staff of the Municipal Economic Research Institute.

Up to now, this batch of centralized training has successfully completed three phases and achieved good training results. The rotation training is another new exploration of the innovation management mode of the Technical and Economic Center of Liaoning Institute of Economics and Research, and is the service and supporting role of the technical and professional profession under the “Three Episodes and Five Majors” system of the Technical Center of Liaoning International Economic Research Institute. A new initiative. The State Grid Technology Institute of Liaoning Economic Research Institute hopes to realize the effective promotion of management experience through the rotation training work, and achieve the unified management level of the technical research and management of the provincial economic research institute and the provincial economic research institute, and the technical management level of the provincial power grid engineering project will be renewed. The goal of the stairs. The specific practices of the rotation training are summarized as follows:

3.1 Carefully prepared to consolidate the relevance and effectiveness of training

In order to ensure the quality of training for the technical staff of the Institutes of Economic Research Institutes in various cities and to achieve the purpose of training, the Institute has organized technical and technical staff to conduct special study and seminars to analyze the different learning of the Institutes of the local universities. The needs, careful development of training programs, careful preparation of the teaching focus, so that the training content is rich and targeted. On this basis, the TEC has developed a detailed training program to clarify the training division and training process of each professional technician, to ensure that the assessment work and training work are effectively linked and the training work does not affect the normal conduct of the review work.

3.2 Contact the actual situation, relying on the project review work to carry out training

Strengthening the business training of technical professionals is an effective way to ensure that the engineering review is completed on time and in quality, and is also an important way to improve the management level of the technology. In the rotation training, the Institute has changed the previous training methods, took the

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lead in adopting the feasibility study and evaluation method of the power grid construction project, relying on the feasibility study of the power grid construction project and the settlement review of the rural power grid reconstruction project, batch-by-batch The professional training personnel of the distribution institute of the city's economic research institute carried out business training, so that the trainers were clear in theory and practically understood, thus achieving effectiveness.

3.3 Innovative methods, adopting small-scale centralized training in batches

In order to achieve efficient and practical training results, the State Grid of Liaoning Institute of Economics and Technology has opened up ideas and brainstormed ideas. After many discussions in the department, it was finally decided to use small-scale centralized training methods to evaluate the technical personnel of the municipal economic research institute. And training in management methods. During the training, the Technical and Economic Center of Liaoning Institute of Economics and Research, Liaoning State University, divided the 14 municipal economic research institutes of the province into several batches for training according to the specific conditions of each city. The Technical Center of Liaoning Institute of Economics and Research, Liaoning University, formulated training programs according to the different characteristics and technical requirements of the technical research and management of each city, and combined with the recent evaluation work plan to arrange training units and personnel, realizing the training is targeted and practical. Sexual effect. The small-scale centralized training method avoids the disadvantages of large-scale training and lack of effective communication with the participants. One-on-one teaching, targeted business guidance and communication ensure the quality of the training.

4. Performance Analysis

After several batches of small-scale centralized training based on engineering review, the Technical and Economic Center of Liaoning Institute of Economics and Research of the State Grid completed the rotation training of the Economic Research Institute of the city, and achieved the expected training objectives, which laid a good foundation for the smooth decentralization of the review authority. Foundation. In the rotation training, the technical experience of the State Economic and Technological Research Institute of Liaoning Institute of Economics and Technology in the economic management work, such as: "Liaoning Province Electric Power Co., Ltd. Technical Standardization Management Manual", "infrastructure, technological transformation, rural network transformation, etc. Guidelines for the Estimation of Estimates and Estimates of Class Projects, Handbook of Settlement of Power Transmission and Transformation Projects, Division of Non-productive Overhaul, Technical Reform and Sub-construction Costs and Calculation Standards, and Regulations on Pricing Management of Power Transmission and Transformation Engineering Bills The management results such as the Handbook on Internal and External Audit Issues of Engineering Settlement

and the Handling Methods for the Settlement of Bills of Engineering Quantity have been effectively publicized and promoted.

After the rotation training, the technical management personnel of the municipal economic research institutes who participated in the training completed the goal of the rotation training on schedule, and the initiative for the feasibility study of the project was enhanced, and the project review level was significantly improved. The participants clarified the responsibilities of the feasibility study of the power grid construction project, ensured the quality of the project review, further standardized the procedures for the feasibility study of the project, and achieved the goal of improving the standardization management of the technology, and improved the technical practice of the Institute. The level of technical management of staff has laid a solid foundation for the overall improvement of the technical management level of Liaoning Company.

5. Typical Case

The rotation training is another new measure to improve the overall level of technical and economic work in the innovative training work of the Technical and Economic Center of Liaoning Institute of Economics and Research.

The rotation training was carried out in several batches. Taking the first training as an example, the State Grid Liaoning Institute of Economics and Technology conducted a nine-day training for three technical staff of the Economic Research Institute of Yingkou, Jinzhou and Chaoyang Power Supply Company. This round of training is based on the feasibility study of the power grid construction project of 10 kV and below in 2014 as a practical subject of training. On the basis of learning evaluation principles and management standards, the participants conducted actual review operations for specific power grid construction projects, and truly combined the theory and practice to achieve the training goal of rapidly improving the business level in the short term. Relevant personnel from the provincial infrastructure department, marketing department, operation and maintenance department, agricultural power department and hair development department participated in the first training work. After the training, the participants expressed their interest in many small training courses. This kind of small training class is equivalent to one-on-one teaching, and it is related to the actual project. It is highly targeted and several times better than the large-scale centralized training method.

In the next stage, the State Grid Liaoning Institute of Economics and Technology will continue to carry out the rotation training, and in accordance with the working standards covered by the technology, the actual review projects such as project settlement, supporting fees and technical upgrading projects will be taken as practical subjects. All the technical staff of the Institute of Economic Research conducted round-robin training to effectively improve the working ability and level of the technical staff of the Institute. At the same time, Liaoning Institute of Economics and Research will continue to summarize and improve the excellent technical management experience of State Grid Corporation, provincial companies

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and the Institute, and communicate it to the municipal economic research institutes through various means such as training, and continuously promote Liaoning. The overall level of the company's technical management has been steadily improved.

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