How to Advance Water Conservancy Inspection under the New Situation

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Abstract: As an important means of water conservancy project construction and management, water conservancy project inspection plays an important role in the development of water conservancy. As the List of Common Problems in Water Conservancy Project Construction Inspection (Trial) (hereinafter referred to as the List) issued by the Ministry of Water Resources in 2019 provides a more standard new model for water conservancy inspection, how to improve the quality and efficiency of water conservancy inspection with accurate and efficient use of the List and maximization of its effectiveness is worth considering.

1. Introduction:
With the increasing scale of investment in water conservancy in China, governments at all levels have higher and higher requirements for regulating water conservancy construction management. The Shandong Provincial Basin Center has been responsible for the inspection of water conservancy projects in most cities in the province since 2011. Over the past decade, it has completed the inspection of more than 180 water conservancy projects in Shandong Province, improved the level and quality of water conservancy project construction management in the province and played an important role in the assurance of quality and safety of water conservancy construction projects, personal safety, production safety and financial safety. Since 2019, the Ministry of Water Resources has issued the List, the Measures for Supervision and Inspection of Construction Quality and Safety Production of Water Conservancy Projects and Water Conservancy Project Contracts (Trial) (SJD [2019] No. 139) and the Measures for Supervision and Inspection of Water Conservancy Funds (Trial) (SJD [2019] No. 130) and used them for inspections organized by it, providing a more standard new model for water conservancy inspection. How to improve the quality and efficiency of water conservancy inspection with accurate and efficient use of the List and maximization of its effectiveness is worth considering.

2. Enhancement of organization, leadership and collaboration
To achieve constant and strict management of water conservancy construction projects, it is necessary to strengthen the organization and leadership of water conservancy inspection, improve organizational structures and systems and take water conservancy inspection as an important task. The unit undertaking the inspection must formulate a detailed annual inspection plan, in which work requirements and responsibilities shall be clarified and work measures shall be worked out, and ensure inspection funds. Meanwhile, it is necessary to strengthen the communication and coordination among units undertaking...
the inspection at all levels and make reasonable arrangements for the inspection time, location and items to prevent overlapping and avoid blanks and blind spots. Basin organizations and provincial institutions can conduct joint inspections to learn from each other and improve the inspection level and quality\cite{1}.

3. **In-depth study of problems on the List and expansion of the inspection depth**

To study the List, it is required to first improve the ideological understanding and clarify the significance of learning. It is necessary to read and memorize corresponding legal provisions, fully understand the content and requirements of the List, focus on learning the content that has been updated, modified and abolished in recent years to make clear major changes in the provisions, and summarize the problems discovered by inspections in recent years so as to apply the knowledge learnt.

Expanding the inspection depth is an important means to improve the inspection quality. During site inspections, emphasis shall be placed on the physical quality of the project, the implementation of construction procedures, fund management and use, the availability of funds, the construction progress and the implementation of construction management systems. Meanwhile, in-depth supervision and inspection shall be conducted on the project entity, surveying, design, construction, supervision and quality inspection units and other participating units to check their contract performance, implementation of mandatory provisions, quality behavior, establishment of the quality assurance system and implementation of the responsibility system. Problems and hidden dangers found shall be fed back in a timely manner and rectified carefully under supervision.

4. **Proficiency in the use of provisions of the List to improve inspection efficiency**

Proficiency in the use of provisions of the List is the key to improving inspection efficiency. It is necessary to not only study and understand provisions of the List in depth, but also summarize and sort out the problems discovered by inspections in recent years so as to increase efficiency and accuracy. The inspection quality is the key to determining the effectiveness of inspections, so units undertaking the inspection must take effective measures to ensure the quality. For site inspections, the special inspector responsibility system shall be implemented and experts shall be allocated in a reasonable way for careful organization of inspections. Inspection experts with high professional quality and strong professional ability shall be selected in a targeted manner based on the inspection content and characteristics of different water conservancy construction projects so as to improve the inspection level. During inspections, the inspection team shall verify the project data carefully, go deep into the project site for all-round confirmation of preliminary work, tendering and bidding, construction management, fund use, project quality and safety production and fully grasp the actual situation of the project based on clear division of labor and internal collaboration. All problems, hidden dangers and risks found in project construction management shall be investigated and verified thoroughly and accurately.

5. **Accurate qualitative analysis of problems and optimization of inspection report**

An inspection report is a manifestation of ultimate results of the inspection team after completion of the site project inspection and of the ability of inspection team members. To improve the quality of inspection results, form an objective, fair, matter-of-fact and accurately qualitative inspection report and ensure the seriousness and authority of inspections, great efforts shall be made to further optimize the inspection report and analyze problems found accurately and qualitatively. After completion of site inspections, experts shall analyze the problems found accurately and qualitatively based on the List, make working papers for each discipline, sign and submit them to the special inspector for review. The special inspector shall make an inspection report after summary and analysis, which will be submitted to the competent inspection department after signing. For the report submitted by the inspection team, the competent inspection department shall organize a discussion on inspection results promptly, review the inspection report carefully and classify and characterize the problems. For outstanding problems discovered by the inspection, it is required to form and issue opinions on their rectification to relevant responsible units, requesting rectifications within a time limit and timely feedback on the implementation of rectifications.
6. Enhancement of responsibility investigation and implementation of rectifications
The rectification of problems found by the inspection is the work goal. Water conservancy authorities at all levels and units undertaking inspection tasks shall enhance the verification and rectification of problems found by the Ministry of Water Resources, the National Audit Office, the Development and Reform Commission and the Ministry of Finance of China, the news media and the masses. For problems found by the inspection, a rectification inventory shall be established in a timely manner, and the subject of responsibility, time limit, plan and measures of rectification shall be clearly defined. In particular, for key water conservancy projects and projects with major problems, strong measures such as follow-up supervision and on-site monitoring shall be taken to ensure the proper implementation of rectification opinions and the formation of a complete and closed chain of inspection. A notice will be circulated on projects and units with failure in timely rectification and implementation of measures. Clues involving violations of discipline and law shall be transferred to the discipline inspection and supervision department for handling. Moreover, the implementation of rectifications shall be sorted and summarized, and the problems found, the measures taken, the progress of rectifications and the next step shall be reported to the competent department for record. The implementation of rectifications shall also be reviewed in a timely manner.

7. Innovation of working methods to adapt to changes in the situation
First, key pivotal projects were mainly inspected in the past. A longer period of time could be arranged for a project, making it possible to investigate it thoroughly. Now, projects are small and varied. The original inspection method can no longer fully meet the requirements of the new situation. Second, with the continuous increase of investment in water conservancy construction, the scope of water conservancy inspection has become wider and wider, including not only large-scale pivotal projects, but also the improvement of small and medium-sized rivers, the reinforcement of sluice of dangerous reservoirs, mountain flood prevention and control, soil and water conservation, construction of key counties for small-scale irrigation and water conservancy, drinking water safety and quality improvement projects in rural areas, continued construction of supporting facilities and water-saving transformation of irrigated areas, drought-resistant water source projects and other livelihood water conservancy projects. The traditional inspection method cannot fully meet the demand. Third, governments at all levels have new requirements for water conservancy. For water conservancy projects, it is required to not only strengthen the construction management of key projects, but also keep pace in other projects. Besides the preliminary work and design, plan release and execution, construction management, fund management and use, quality and safety of the project, the system engineering of the project shall be inspected, including work plans, control systems and command and deployment systems.

8. Continued enhancement of inspection team construction and management
Strengthening the construction and management of water conservancy inspection teams is the foundation for good water conservancy inspections under the new situation. First, it is required to strengthen the capacity building of the competent water conservancy inspection department effectively. The competent inspection department is the pivot in the inspection work, which is responsible for the formulation and implementation of inspection plans, appointment of inspectors, feedback on inspection results, supervision of rectification and implementation, and supervision of inspection activities. Second, it is required to strengthen the selection and management of inspection experts. Inspection is a serious act of administrative law enforcement. Therefore, people who are honest, upright and decent with standard behavior and excellent professional skills shall be selected to be engaged in the inspection and maintain its seriousness and authority. Third, efforts shall be made to improve the expertise of inspectors. Under the new situation, the Central Committee of the Communist Party of China and the State Council have promoted the practice of streamlining administration, delegating power and improving regulation and services vigorously and in depth, and constantly issued, revised, improved and abolished regulations and technical standards regarding the investment and construction mode of water conservancy and the construction management of water conservancy projects. This requires regular training of inspectors and
timely update of knowledge reserve. Only in this way can inspection experts give full play to their professional and technical advantages, discover hidden dangers in water conservancy construction management in time with their rich experience in inspection and sharp eyes and play the role of "supervision pioneers" effectively.

9. Conclusion:
Through the in-depth study of the list, combined with the summary of years of inspection work experience, we can grasp the new situation and new requirements of water conservancy inspection work more accurately, which lays a solid foundation for doing well the water conservancy construction project management and engineering inspection work under the new situation, and helping to improve the water conservancy project construction management level of the whole province.

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