Environmental change and suggestions for improving EIA technology of Industrial Park Planning

Lihua Huang *

Appraisal Center for Environment and Engineering Ministry of Environmental Protection, Beijing, 100012, China

*Corresponding author e-mail: huanglh@acee.org.cn

Abstract. This paper analyzes the new development trend of China's environmental situation, the new characteristics of environmental pollution and environmental risk in the park during the "14th five year plan". And the new requirements of the environmental changes in the 14th five year plan for the park planning EIA technology. From the aspects of improving the technical system of planning environmental impact assessment, strengthening the circular economy and ecological technology, and studying the applicable prediction model, the paper puts forward the technical countermeasures of the park planning environmental impact assessment. In order to prevent and reduce the cumulative environmental pollution of the park and prevent the environmental risk of layout.

Keywords: park planning EIA, Cumulative environmental pollution, Development and changes, layout environmental risk.

"The 14th five year plan" is an important beginning of the new journey of building China into a powerful socialist country in an all-round way, and social and economic development will undergo a comprehensive and profound transformation. China will focus on building a high-level ecological and environmental protection pattern that matches high-quality development. As an important basic unit of environmental management in China, the overall environmental protection level of industrial park is related to the overall development of environmental protection in China. During the "14th five year plan", the environmental impact assessment of China's park planning must face the new situation, new tasks and new requirements, take the initiative to identify changes, take the initiative to respond, and solve the development problems. We should give full play to the prevention role of pollution sources and promote the improvement of pollution control and protection level in the park.

1. New development trend of the 14th five year plan.

1.1. Major changes in regional development strategy.
One belt, one road" and "two lines and four points" development strategy for the Yangtze River economic belt, the "one belt and one road" and the Beijing, Tianjin, Hebei, Guangdong, Hong Kong, Macau and Hainan Yangtze River Delta in 14th Five-Year will be transformed from the four major development strategies. [1] The distribution of industrial parks in China has developed from coastal
open cities, riverside cities and inland cities to the western regions. And within the scope of land space, it has formed a spatial pattern of multi-level and multi-field comprehensive development. At the same time, driven by the new urbanization strategy, China's industrial parks have gradually evolved from the industrial agglomeration area characterized by "separation of industry and city" in the early stage to the urban industrial area, urban group, urban new area or regional collaborative development platform (enclave type Park) characterized by "industry city interaction" [2-4]. The orientation of the park has gradually expanded from a single industrial function to a variety of functions such as industry, residence, commerce, finance or cross regional industrial cooperation, and has become a new power source for the development of central cities and urban agglomerations, and an important leading area and functional carrier for promoting regional development strategy. At the same time, the park is not only the main position of strategic implementation of regional industrial structure adjustment, but also the key area to solve regional pollution and watershed pollution because of its concentrated environmental pollution and prominent environmental problems. In accordance with the regional development strategy and the change of park function, the EIA of park planning must keep pace with the times and adjust the management strategy. In the work, we should find out the precise positioning to assist the implementation of the "two lines and four points" strategy, and reflect the implementation of national policies and strategic deployment.

1.2. Major changes in the mode of Industrial Development.
Under the guidance of the development concepts of innovation, coordination and green in the 14th five year plan, China's economy will change from high-speed growth to high-quality development [5]. Profound changes will take place in the industrial structure and development mode. Profound changes will take place in the industrial structure and development mode. Excess capacity will continue to dissolve, high-quality and advanced production capacity will be released in an orderly manner, and emerging industries will gradually grow. And green cycle low-carbon concept, technology and mode of green transformation of stock economy, green construction of incremental economy. As the main battlefield of regional industrial structure adjustment, industrial park is also evolving from low-level to high-level stage along the direction of industrial agglomeration industrial division industrial chain construction ecological [6-9]. The industrial park with ecological development goal will become the main battlefield for the adjustment of regional industrial structure and development mode. How to help China's industrial development mode reform, promote the transformation and upgrading of industrial parks, green development, is also the key issue to be solved in the environmental impact assessment of industrial park planning.

1.3. Major changes in the framework of China's planning system.
During the 14th Five Year Plan period, China will continue to deepen the reform of the land and space planning system with the "integration of multiple plans" as the core. However, in the latest land and space planning related documents and technical specifications, the park planning has not been independently described, and the park planning has not become an independent planning level or type. In the actual management of land and space planning, some park planning with the nature of independent administrative region is defined as spatial zoning planning, while other types of parks are not mentioned. Some regard the park planning as a special planning in the land and space planning. Looking back on the development history of the development zone planning, China only defines the management method of the Development Zone (Industrial Park) planning in the "development zone planning management measures", and requires the park to prepare the planning according to the requirements of the overall urban planning. With the abolishment of the measures in 2010, there is a vacuum in the laws and regulations of China's development zone planning. In the reform of land and space planning system, the position of park planning in the planning system is still awkward. The complex and nonstandard planning of industrial park is difficult to reverse in a short time, which weakens the effectiveness of EIA of industrial park planning to a certain extent. At the same time, there are still differences in the preparation form of the park planning EIA documents. In 2006, the EIA of development zones was
officially included in the planning EIA. However, the current notice on printing and distributing the specific scope of planning for preparation of environmental impact report (Trial Implementation)) and (specific scope of planning for preparation of environmental impact chapter or description (Trial Implementation)) (HF [2004] No. 98) does not clearly state the form of document preparation independently, and there are different interpretations of park planning type subordination. For example, the current development zone planning in China basically follows the technical paradigm of urban master planning, and the environmental impact chapter of planning should be compiled according to the current No. 98 document.But, this is contrary to the current environmental impact assessment management requirements of industrial park planning. Therefore, it is urgent to clarify the orientation of park planning and EIA in relevant systems, so as to lay a solid institutional foundation for the standardized management of industrial park planning EIA.

1.4. Major changes in the reconstruction of environmental management system.
During the 14th five year plan, China will deepen the reform of environmental management system. Reconstruction of the whole process environmental management system of regional spatial ecological environment assessment, planning environmental impact assessment, project environmental impact assessment, pollutant discharge permit and law enforcement supervision. We will deepen the reform of the source prevention and environmental access system with the EIA system as the core, and promote the reform of the regulatory system of fixed pollution sources with the emission permit system as the core.Fortemore, in the context of streamlining administration and decentralization and optimizing the business environment, the State Council and the Ministry of ecological environment have successively issued relevant policies to promote the reform of industrial parks. It requires innovation of park system and mechanism, reform of park environmental management mode, and improvement of environmental management system. During the period of "the 14th five year plan", the environmental impact assessment of industrial park planning should implement the new positioning of environmental management system and the new requirements of environmental management reform, grasp the change direction of environmental impact assessment focus from focusing on micro to focusing on both macro and micro, optimize and adjust the technical ideas of planning EIA, and support the reconstruction of management system.

1.5. Major changes in the development of the environmental situation.
During the 14th five year plan, China will still be in a complicated stage of interweaving new and old environmental problems. With the environmental pollution control entering the critical stage, economic growth slowdown has become the new normal of economic development, and the difficulty and resistance of continuous improvement of environmental quality are increasing. Especially in the industrial park, which is the key unit of environmental management, environmental problems have changed from early environmental pollution to cumulative pollution and layout environmental risk. For example, in some parks near the river, there exists the problem of staggered layout between the discharge outlets of sewage treatment plants and the water intakes of urban water sources, which poses a potential threat to the safety of urban drinking water. The industrial, residential and commercial land use is staggered in the industrial and urban integration park. The mixed phenomenon of pollution industrial units and residential areas is prominent, and environmental disputes occur frequently. Chemical, petrochemical, metallurgical and other major risk sources or heavy metal parks, environmental pollution intensity, environmental risk potential increased significantly, soil heavy metal pollution, river sediment pollution and other cumulative effects gradually appeared. Some characteristic pollutants exceed the standard, which makes it more difficult to improve the environmental quality of the park, and the marginal cost of pollution control increases [8]. How to analyze and evaluate the new problems that may arise from the implementation of the planning, and scientifically select the prevention and control measures, and achieve the goal of environmental quality improvement with less cost, is a problem that can not be ignored in the environmental impact assessment of the "14th five year plan" park.
2. Suggestions on environmental impact assessment of park planning during the 14th five year plan.

During the "14th five year plan" period, the EIA of industrial park planning should not only face the difficult problems, but also pay attention to the strategy. We should adjust and optimize the management strategy, technology system and policy-making to meet the new challenges brought by the new development trend.

2.1. Optimizing management strategies to cope with changes in strategic deployment.

During the 14th five year plan, the EIA of industrial parks in China should follow the management strategy of strategic guidance and problem orientation, and promote the planning EIA work as a whole.

First of all, at the strategic regional level, we should establish a joint meeting of Provincial Ecological and environmental departments, build a cross provincial environmental protection coordination mechanism, and follow the strategy guidance and problem orientation. Determine the key direction of regional environmental collaborative governance in strategic implementation and the overall arrangement and deployment of joint protection and governance, and timely issue Guidance Opinions on strategic regional environmental collaborative governance. Among them, Beijing Tianjin Hebei focuses on coordinated improvement of ecological environment and coordinated treatment of water and air pollution. Around the core elements of water resources, water environment and water ecology, the Yangtze River economic belt focuses on the coordinated protection of the upper, middle and lower reaches of the basin. The Great Bay area of Guangdong, Hong Kong and Macao focuses on the control and protection of atmospheric pollution with high standard and high level and the protection of offshore environment. The Yangtze River Delta region focuses on the coordinated control of river, river and sea water environment and air pollution.

Secondly, at the provincial level, sort out the environmental stock problems of parks in different regions. Under the overall framework of joint protection and governance of strategic areas, the key parks of environmental collaborative governance and the key points of environmental tackling should be defined according to the regional conditions. From the perspective of regional overall planning, the development direction, industrial orientation, cross park green industrial chain construction, environmental pollution control focus, etc. should be arranged, and strive to be included in the implementation guidance of "three lines and one single", which will become the action program of environmental collaborative governance of parks in the whole province.

Third, at the park level, seize the opportunity of the peak of park planning in the first year of the 14th five year plan. Taking the environmental impact assessment of the park planning as the starting point, the requirements of industrial recycling and combined development, and the strengthening scheme of pollution control in the park based on environmental collaborative governance are implemented in the EIA document of the park planning, which is the basic follow of the environmental management of the park.

2.2. Expanding the function of planning environmental impact assessment and conforming to the change of development mode.

"The 14th five year plan" should enrich the connotation of environmental impact assessment of Industrial Park Planning. Green development of the park is regarded as an important new function of EIA, and the implementation path is actively explored. It is suggested that the park's ecological environment access, planning optimization and adjustment, and the circular development countermeasures of the park should be taken as the main technical means to guide the park management department to break the path dependence and promote the circular and combined development of the park and industry. Furthermore, we should learn from the experience of building ecological, circular, low-carbon and green parks in China and the applicable technical methods in relevant guidelines. The assessment and construction requirements of recycling development of industrial parks are incorporated into the revised guidelines for industrial parks, making it one of the basic tasks of planning environmental impact assessment.
2.3. Optimizing working mechanism to cope with the reform of planning system.
In order to break through the dilemma faced by the environmental impact assessment (EIA) of industrial parks during the 14th Five Year Plan period, it is imperative to straighten out the two relationships and optimize the planning and planning EIA working mechanism.

The first is to clarify the relationship between industrial park planning and land space planning system. Define the location, function, content and planning requirements of industrial park planning in land and space planning. And work with the Ministry of nature, land and resources as soon as possible to study and formulate relevant documents to standardize the preparation of development zone planning. Regional coordinated development, people-oriented, green development, Park recycling transformation and other basic principles must be followed in the planning. As the precondition of the park planning review, planning EIA makes the park planning and implementation have rules to follow.

The second is to clarify the relationship between the planning EIA of industrial parks and the planning EIA system. Break the framework structure of "one place, three areas and ten special projects" and reconstruct the planning EIA system. Promote the revision of No. 98 document, stipulate the preparation forms of planning environmental impact assessment documents of different levels and types in the land and space planning system, and clarify the requirements for the preparation of the EIA report for industrial park planning.

2.4. Optimizing the technical route of evaluation to support the reconstruction of environmental management system.
Taking the opportunity of revision of Industrial Park guidelines, accurately grasp the functional orientation of EIA of industrial park planning in the EIA management system. To construct a technical route that fully reflects the logic of the upper and lower transmission structure. "Upward" links up and refines the results of regional spatial ecological environment assessment. Taking the regional "three lines and one single" management and control system as the construction principle of environmental objectives and index system, the benchmark of environmental impact prediction and evaluation, the comprehensive demonstration of planning environmental impact rationality and the scale of optimization and adjustment. "Downward" constraint to guide construction projects entering the park and simplification of EIA contents. At the same time, with the two outputs of Park ecological environment access and project EIA simplification as the carrier, the system convergence and collaborative management of regional, park and construction project EIA are realized, and the management system integration is realized at the technical level.

2.5. Amping technical support to cope with the change of environmental situation.
During the "14th five year plan", we should optimize and adjust the objectives, direction, key points and pollution prevention and control path of the park planning environmental impact assessment. The key points of evaluation should not only focus on the impact of key pollution factors and potential major environmental risk factors restricting the improvement of environmental quality and mitigation measures, but also pay attention to the solution of existing environmental problems. The assessment contents include cumulative impacts such as soil pollution, human health impacts and new environmental issues such as environmental risks. The path of source control has been further expanded. It includes strengthening the ecological environment access, forcing backward production capacity and polluting industries to exit, circular development of the park, reducing resource consumption and pollutant emissions, reducing the high cost of terminal treatment, and promoting the sustainable improvement of the environmental quality of the park. The evaluation angle is brought into the perspective of economic analysis, the comprehensive environmental benefit analysis demonstrates the environmental rationality of the planning scheme, and further optimizes the source pollution prevention scheme. In addition, in order to meet the new requirements of the environmental impact assessment of industrial park planning in the new period, we should strengthen the research on the key basic theories and technical methods, such as the quantitative assessment technology of environmental benefits, the
cumulative environmental impact assessment technology, and the technical methods of environmental space control and environmental quality improvement mechanism and benefits.

3. Conclusion.
During the 14th Five Year Plan period, China's social and economic development presents a new situation. It not only provides opportunities for the reform of environmental impact assessment of industrial park planning, but also brings more challenges. The concept, function, technical requirements and emphasis of EIA for industrial park planning will change. Industrial park planning should conform to the new situation. Planning environmental impact assessment should establish new objectives, constantly improve and optimize management strategy, working mechanism, technical system and work content, and play a good role in source prevention and coordinate the high-quality development and high-level protection of the park, guide the ecological and green development of the park, and strongly support the transformation and development of the country.

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