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Reflections on the Construction and Management of Customs Supervisory Workplaces for Railway and Water Transportation

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Abstract: Starting from the issues related to the construction and management of customs supervision places for railway and water transportation, this paper systematically analyzes the problems and challenges in the facility layout of customs operation places, the construction of a public platform for customs and port logistics monitoring, the utilization of information and data, and the intensity of technological innovation. Based on in-depth research, this paper attempts to propose improvement strategies and suggestions in terms of scientifically planning the layout of customs supervision places for railway and water transportation, improving the operation of the logistics monitoring public platform, developing and utilizing the information and data system, building a smart customs, and innovating the supervision mode. This aims to further optimize the customs supervision process, improve supervision efficiency and accuracy, and provide a reference for the facilitation and safe development of international trade.

Keywords: Supervision workplaces; Customs management; Current situation; Countermeasures

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1. Introduction

Co-located customs supervision for railway and water transportation refers to the unified supervision of imported and exported goods transported via multiple modes, such as waterway and railway, within the same customs supervision zone. This innovative supervision model integrates the resources and characteristics of railway and water transportation modes, which is significant in promoting cost reduction and efficiency improvement in cargo supervision and customs clearance, facilitating international trade, and enhancing the overall efficiency and competitiveness of the logistics industry. It represents an important practice in advancing the construction of smart customs, the "Smart Customs, Strong Country" initiative, and innovating regulatory service models.

2. Favorable factors and significance of achieving “co-located supervision”

Integrated layout: Co-located customs supervision for railway and water transportation is an important measure to promote the integrated construction of ports, which can significantly improve the overall quality of logistics services and the level of regional economic development, injecting new momentum into smooth trade and economic growth. This not only enables the interconnection of infrastructure, where water transportation and railway transportation facilities are located close to each other within the same customs supervision zone, forming an integrated “road-rail-water” port infrastructure. The seamless connection of transfer facilities and passageways between various transportation modes facilitates the smooth transfer of goods between different modes. Additionally, it allows for the sharing of regulatory resources. Within the same customs supervision zone, law enforcement departments such as customs can share regulatory resources, including manpower, information, and equipment, which is conducive to improving regulatory efficiency and reducing repeated inspections of goods in different regulatory links.

Unified supervision: Customs implements unified regulatory policies and models for the water and railway transportation of imported and exported goods. This unified regulatory system is conducive to simplifying customs clearance processes, improving regulatory efficiency, and enhancing logistics flexibility. Logistics enterprises can flexibly choose water or railway transportation modes based on actual conditions, without being restricted by different regulatory departments and processes. This helps reduce time and cost losses during transshipment, lowers enterprise operating costs, and assists enterprises in optimizing supply chain management and enhancing supply chain flexibility and responsiveness. Unified supervision is an important manifestation of co-located customs supervision for railway and water transportation, which can provide enterprises with more efficient and convenient customs clearance services. This is of great significance for promoting smooth trade and high-quality economic development.

Information sharing: Through informatization means, information islands are broken down, and information sharing and data resource interconnection are achieved between customs, ports, railway stations, and related logistics enterprises. Real-time sharing of information such as cargo status and transportation progress helps enterprises timely grasp logistics dynamics, improves logistics transparency and predictability, and reduces information asymmetry and communication costs between different departments and enterprises. Information sharing also provides richer data resources for regulatory departments such as customs, which is conducive to strengthening the entire process monitoring and precise analysis of cargo flow and risks, further enhancing regulatory capabilities. More timely and comprehensive data support under information sharing helps simplify customs clearance procedures, speed up cargo clearance, and improve clearance efficiency. Information sharing is an important measure to promote the construction of “smart ports”, which can realize the interconnection of information resources among customs, logistics enterprises, and other parties, improve the transparency and efficiency of logistics operations, and also enhance the law enforcement capabilities of regulatory departments, providing strong support for trade facilitation and high-quality development.

Business collaboration: Achieving seamless multimodal transportation connections, through business collaboration between water and railway transportation, imported and exported goods can be smoothly transferred between different transportation links, realizing integrated operation of the entire logistics process, improving overall transportation efficiency, and reducing logistics costs. This attracts more enterprises to upgrade from data-driven freight forwarding to industry-driven port trade and port processing, injecting key elements of high-quality development into scale expansion, condensing regional collaborative efforts, and boosting the continuous

optimization of the business environment. Enhancing supply chain collaboration, business collaboration in turn promotes information sharing and process coordination between different transportation entities, which helps to establish closer supply chain collaboration relationships and improve the overall supply chain operation efficiency.

3. Problems and challenges facing the co-location of rail and water transport regulation

The layout of the supervised workplace needs to be reasonably planned. Based on clarifying the development positioning, spatial layout, and functional requirements of the "same-site supervision" site, it is necessary to strengthen the supporting construction of road traffic, infrastructure, and the park information network platform to ensure that the traffic conditions around the customs supervision workplace are perfect, the infrastructure is good, and the network services are fully equipped, which is conducive to sufficient logistics resources and improved infrastructure [1]. At the same time, starting from standardizing the management and supervision of the workplace, focusing on resource integration, and aiming to improve customs clearance efficiency, the industry will gradually achieve a good situation with a reasonable functional layout, adequate daily supervision, orderly logistics operations, and clear corporate development goals, realizing the organic combination of strict supervision and efficient operation.

The public platform for customs and port logistics monitoring needs to be established and improved. In the context of the new era, building a customs monitoring and command center, and relying on advanced video monitoring systems, has become a key link for customs to strengthen comprehensive supervision, clarify the division of responsibilities, promote coordination and efficiency, and ensure orderly operation [2]. Implementing command and dispatch as well as sharing of regulatory information, breaking the pattern of decentralized operations among multiple departments, and achieving cross-departmental coordination and resource integration are of great significance for improving the efficiency of customs supervision. This action not only helps to ensure the security of customs data but also enables the interconnection and sharing of port logistics information and customs data. By establishing a cooperation mechanism between customs and port logistics management, the industry can promote the virtualization process of port operations and achieve networked coverage of regulatory stations. At the same time, actively introducing social forces to jointly supervise the logistics process of "same-site supervision" presents a broad and promising application prospect.

The utilization of information data needs to be improved. As one of the national authorities, the customs has always been at the forefront of system informatization. From the early H883 customs clearance system to the subsequent H2000 and H2010 systems, customs has always been exploring more efficient and precise customs clearance methods [3]. In recent years, customs have continuously developed auxiliary management systems, such as regulatory workplace record information management, manifest management, and transportation management, to improve regulatory efficiency. However, due to issues such as the increasing number of business categories, increasing business volume, and the accelerated integration of business and technology, there has been a phenomenon of departments working independently and duplicating development efforts, leading to overlapping system functions, which affects the level of information processing and utilization. This also increases the difficulty of subsequent maintenance and deep development [4]. Additionally, the inconsistency and inadequacy of information platforms have led to insufficient information support for regulators. The integration and utilization of data on the entry, exit, transfer, and storage of regulated workplaces still face challenges, and the formation of an

efficient and rigorous regulatory chain is also constrained [5]. This is not compatible with the customs' requirement of "informatization of logistics monitoring" and poses certain regulatory risks.

The effort to seek productivity from technological innovation is not sufficient. With the growth of import and export cargo volume, the practical difficulties of simultaneous supervision of railway and water transportation have increased. Especially in the context of a shortage of customs personnel, how to resolve the contradiction in human resources has become an urgent issue. To address this problem, the industry must continue to reform and innovate, and seek productivity from technological innovation. Specifically, modern technologies such as big data, the Internet of Things, and cloud computing should be introduced into the actual customs supervision work to build a "smart customs", "agile customs", "self-service customs", "collaborative customs", and "data customs" [2]. This will enhance the ability to prevent and control risks in the field of customs supervision.

4. Countermeasures and suggestions for the construction management of railroad and water transportation co-location supervision

Scientific planning of the layout of railway and water transportation simultaneous supervision of workplaces. Provide timely policy support, fully consider the requirements of the General Administration of Customs (2008) No. 171 Order on the setting standards for railway freight stations and other relevant customs regulations. When planning the operational processes, development trends, and scale requirements of international intermodal transportation business, scientific planning and appropriate integration of existing hardware facilities should be carried out ahead of time. At the same time, the impact of policies and the optimization and transformation of functions should be considered to facilitate the smooth acceptance of supervision points during the reconstruction phase of the workplace [6]. To promote the healthy development of the logistics industry, the rational layout and functional expansion of ports are crucial. This will not only establish an efficient and collaborative import and export logistics network but also encourage logistics enterprises to use technological means to improve management systems and raise management levels. It will also promote the expansion of value-added and extended services such as warehousing, foreign trade, customs, and shipping, and drive the development of third-party and fourth-party logistics services [7].

To improve the operation of the public logistics monitoring platform, it is necessary to strengthen the technological network construction among the supervision sites, subordinate customs offices, and functional departments. By utilizing information networks and video monitoring technology, a new interactive and interconnected "online supervision" mechanism should be established. The practical application of the electronic gate control and networking system is also a key focus. Through the coordination of electronic customs locks and electronic gate management, management automation can be achieved, further improving and expanding the application effectiveness of existing smart supervision methods in logistics monitoring [5]. During the operation of the information sharing platform, it is necessary to ensure smooth communication and integration between relevant information platforms and systems, and to achieve seamless connectivity among various information management systems within the customs, in order to meet the demand for internal information sharing. While ensuring data security, information exchange with enterprises and relevant government departments should also be facilitated, providing enterprises with necessary water transportation and railway logistics information to ensure smooth processes such as customs clearance and declaration.

Fully develop and utilize information data systems. Integrate various types of information and technological

resources, including real-time customs declaration and clearance data, trade statistics, risk platform data, and enterprise management data to provide strong support for decision-making [5]. This will enable joint maintenance and sharing, coexistence, and common development. It will break the current departmental segmentation model, achieve full information sharing, and rational management of resource allocation. Based on a thorough understanding of internal operations and through scientific reasoning, the industry will fully utilize existing analysis and monitoring procedures to promote interconnectivity between various departmental management systems. This will facilitate the construction of a unified and shared management platform, providing powerful technical support for efficient departmental functioning. It will enhance the scientific and informational level of supervision, effectively preventing law enforcement and integrity risks.

Intelligent customs construction is helping the management of supervisory workplaces. It has resolutely implemented the cooperation initiative of the President of the CCP on "Smart Customs, Smart Borders, Smart Connections", carried out the "Smart Customs for a Stronger Nation" initiative, and comprehensively implemented scientific and technological supervision. In order to promote the promotion of the pilot work of the "chokepoint control and networking system", the construction of chokepoint facilities at supervisory workplaces should be strengthened, and at the same time, an information-based supervisory system for yards and stations should be developed and applied, so as to strengthen the management of books, field inspections and other supervisory activities at supervisory workplaces. The use of manpower operation system is also the key to enhance the effectiveness of supervision, through the realization of the deployment of fully automated "double random" dispatch orders, customs clearance and supervision of the whole chain of visualization, as well as the deployment of non-intrusive inspection equipment (H986) and vehicle-mounted mobile container/vehicle inspection system, intelligent auditing, and make full use of the efficacy of scientific and technological equipment in order to reduce the Cargo opening inspection rate, improve inspection speed and accuracy, so as to enhance the efficiency of inspection operations.

In the practice of on-site supervision, the industry explores the optimization of regulatory processes and the innovation of regulatory models. One of the tasks of managing customs supervision workplaces is to simplify business processes and improve regulatory efficiency based on risk management. Combining regional customs clearance, electronic customs clearance, logistics platforms, networked supervision, selective inspection systems, electronic ports, and other business reforms and construction, the industry scientifically allocates regulatory resources, taking into account the characteristics of water and rail logistics and the needs of enterprises. The industry aims to achieve the goals of postponing import logistics inspections, advancing export logistics inspections, and completing inspections during normal circulation when goods arrive at customs-controlled areas, avoiding the formation of "inspection logistics." For example, the non-intrusive inspection of scientific equipment set up in the port area within the choke point, containerized goods in and out of the port area can be accepted at the same time the Customs inspection, not only to reduce logistics costs and save the time of customs clearance, to ensure that the supervision is in place, the risk of controllable on the basis of the realization of the customs homeopathic supervision, non-sensory supervision [8].

Disclosure statement

The authors declare no conflict of interest.

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