Discussion on the relocation and construction of liupu harbor beacon

Ren Qingfei* and Li Mu**
*LIANYUNGANG AIDS TO NAVIGATION DEPARTMENT OF DONGHAI NAVIGATION SAFETY ADMINISTRATION
**LIANYUNGANG AIDS TO NAVIGATION DEPARTMENT OF DONGHAI NAVIGATION SAFETY ADMINISTRATION

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ABSTRACT

Port wharf is the home for ships to stay. In order to facilitate ships to find the way home, light piles marking the left and right limits are built on both sides of the port wharf approach channel to guide and assist navigation. With the change of time and the need of economic development, some ports have been relocated or abandoned, and the navigational AIDS of lamp piles built for a long time have been greatly reduced, which have less or even cannot play their navigational AIDS at all. Therefore, considering the safety of ship navigation and the principle of not wasting national assets, it is completely necessary and feasible to relocate or remove the lamp piles that have been relocated or abandoned in the port.

1.Introduction

Navigational markers, namely navigational AIDS, are visual, audio and radio information service facilities set up to help ships navigate safely, economically and conveniently. Maritime AIDS include visual AIDS, acoustic AIDS and radio AIDS. Visual beacons mainly include lighthouses, buoys, light piles, light boats and other beacons, with certain colors for daytime identification, and flashing lights for visual identification by driving personnel at night.

Light piles are fixed luminous beacons set on reefs, headlands, harbors, breakwaters and other places near waterways. The range of lights is generally less than 15 nautical miles, and they are generally unguarded, but some important beacon posts are guarded. The lamp post can be used to mark the location of the first sight of land or as part of the guide; Marking navigational hindrances or hazards in or near a waterway; Marking the lateral limits of a navigable or navigable waterway; Mark an area or the turning point or confluence of a waterway. The author, as a basic maritime navigation mark manager, mainly plays the role of marking the side limit of the channel into the harbor basin. However, at present, some land light piles in the jurisdiction are facing the dilemma that the port shift cannot play a normal guiding and assisting role. For example, the right light pile in Liupu port under my jurisdiction basically loses its guiding and assisting role.

Liupu port light pile is a public beacon, which is composed of two light piles, the left light pile of Liupu port and the right light pile of Liupu port, marking the left and right boundaries of the inbound and outbound channels. Liupu port light pile is an important navigational aid mark set up by the state to boost local economic development and ensure the safe entry and exit of ships, as well as an important navigational aid mark for ship dredging channel operation.

2.Overview of lamp posts in Liupu Port

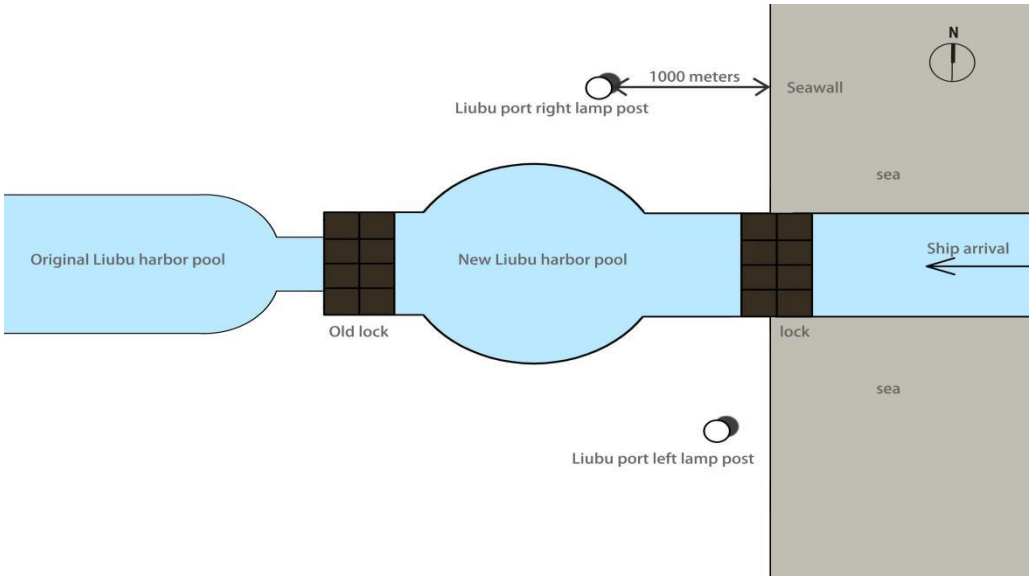
2.1 Left light pile of Liubu Port

location	32° 29′ 00.3″ N121° 13′ 19.5″ E
Light quality	Flash (3) red for 10 seconds
High light	14m (height above the high tide of average spring tides)
Pile height	12 m
The light range	5 nm
structure	Red and white horizontal cylindrical steel pipe
Build date	November 2007
function	Mark the left boundary of the approach channel of Liubu Port
The surrounding environment	Located on the left side of the original harbor basin approach channel

2.2 Right light post of Liubu Port

location	32° 29′ 00.3″ N121° 13′ 19.5″ E
Light quality	Flash (3) green for 10 seconds
High light	14m (height above the high tide of average spring tides)
Pile height	12 m
The light range	5 nm
structure	Green and white horizontal cylindrical steel pipe
Build date	November 2007
function	Mark the right boundary of the approach channel of Liubu Port
The surrounding environment	located in the shoal on the right of the entrance channel of the original harbor basin

3. General situation of Liupu Port and the relationship between the lamp posts of Liupu Port



Schematic diagram of liubu Port change

Original condition of left light pile at Liubu

Status quo of left light pile at Liubu Port

Original condition of right light pile at Liubu Port

Status quo of right light pile in Liubu Port

Liu port port status overview: with the increase of fishing port vessel traffic in and out of liu port, the port liu has not satisfied the needs of the development of harbor basin area, the local government has made expanding liu port fishing port planning, the original dock gate outside the approach channel to expand into new port fishing port, liu original dock gate, then lead to new locks on both ends of the building seawalls will liu port port lights pile around the inside of the seawall. Combined with the transformation diagram of Liupu port and the comparison between before and after photos of the location of the light pile, it can be seen that although the left light pile of Liupu port is surrounded by a seawall, the light pile is close to the seawall, so the navigational performance of the light pile is less affected. The right lamp post of Liupu port is also surrounded by the sea wall, but the distance from the sea wall is about 1,000 meters, and the sea wall is about 5 meters high, while the lamp is only 14 meters high, and the effective range of the light is about 5 nautical miles. The closer the ship approaches the seawall during the day, the display effect of the right lamp post will gradually disappear completely in the field of vision. Because the seawall seriously blocks the effective range of the right light pile lights of Liupu port, the closer the ship approaching the seawall at night, the greater the blind area of the lights in the visual field of the ship pilots, and the navigating and aiding efficiency is greatly reduced. To sum up, the left light

pile of Liupu port is less affected by the seawall containment navigation-aids efficiency, while the right light pile of Liupu port is greatly affected by the seawall containment navigation-aids efficiency.

3.Liupu port light pile suggestion

In order to give full play to the navigational AIDS of Liupu port, provide more effective navigational AIDS and technical support for the navigation safety of ships entering and leaving the port, and better boost the local economic development, it is suggested to invite relevant experts to carry out field survey and technical demonstration, and relocate the right light piles of Liupu port to the outside of the seawall. In order to maximize the navigation efficiency of light pile, it is best to build the left light pile of Liubu port to the outside of the seawall. In recent years, with the rapid development of science and technology, a variety of new materials have been successfully developed and widely used in the lamp pile, such as aluminum alloy lamp pile, polymer polyethylene lamp pile, with light weight, solid structure, corrosion resistance, strong resistance and other advantages. If light pile reconstruction is adopted, the construction of new light materials is undoubtedly the best choice. However liu port port lights around pile is steel tube type lamp, build time is shorter, but s regular paint cleaning and maintenance, steel is good, hard light beacon paragraphs by flange welding assembled is easy to remove, so for national resources waste, the principle of cost savings, liu port port lights around pile can be removed after the relocation to the seawall lateral.

4.Conclusion

As an important part of navigation security, visual navigation AIDS still play an important role in navigation services. In order to better practice the purpose of being a traffic power and boost the local economic development, the author proposes to relocate the light pile of Liubu Port based on the actual situation of navigation security under the jurisdiction of the author. The above discussion is only a personal point of view. It is expected that relevant experts will conduct field survey, conduct more scientific demonstration, and put forward better planning suggestions for Liupu port light piles based on the actual situation, so that liupu port light piles can play a better navigational aid efficiency and better escort ships entering and leaving the port.

The change of Liubu port is only a small miniature of many ports along the coast of China. From a small perspective, many ports are migrating or abandoned, leading to a serious decrease or complete disappearance of navigation AIDS. It is hoped that the state department will organize relevant experts to test the effectiveness of all the land public navigational facilities along the coast, and relocate or remove them in line with the principle of providing high-quality navigation and assistance services and not wasting national resources.

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Author’s Biography

Ren Qingfei Position: Assistant Engineer Work unit:LIANYUNGANG AIDS TO NAVIGATION DEPARTMENT OF DONGHAI NAVIGATION SAFETY ADMINISTRATION Tel: 18961380782

Li Mu Position: Engineer Work unit: :LIANYUNGANG AIDS TO NAVIGATION DEPARTMENT OF DONGHAI NAVIGATION SAFETY ADMINISTRATION Tel: 18961382782