IWONA PIETKIEWICZ
Gdynia

THE HISTORY OF KRYNICA MORSKA LIGHTHOUSE

The town of Krynica Morska, where is the furthest Eastern Polish lighthouse, is situated by the Vistula sandbar. The development of Krynica Morska, which German name was Kahlberg, took place in the middle of the 19th century when, due to Elbląg (Elbing) merchants' initiative, a consortium governing the Vistula sailing was established. Thanks to their effort, a sailing line between Królewiec (Königsberg) and Elbląg was born, thus first tourists started coming to Kahlberg. Soon, the town has become a popular and liked resort among the people living in Gdańsk and Elbląg area. Now it is also often visited by the tourists from the whole Poland and Germany.

Kahlberg lighthouse 1895–1945

A lighthouse on the Vistula Spit (Frische Nehrung) proved to be necessary at the end of the 19th century, due to a lack of full protection of night-time navigation in the Gulf of Gdańsk. The existing lighthouses of Hel (Hela), Nowy Port (Neufahrwasser), Pillau, Brusterort (currently Baltiysk and Mayak in Kaliningrad Oblast) and Rozewie (Rixhöft) allowed a good definition of the position for ships *en route* to Gdańsk coming from the west. But the ships from Pillau to Gdańsk encountered difficulties in defining their place in the centre of the Gulf.

One of the first masters who drew the attention of authorities to this issue was Spalding. He sent a letter to the Maritime Administration, dated January 15, 1887 in which he informs about a dangerous gap in the marking of the coast. This information became spurred various institutions to start the process of accumulating resources to design and build a new lighthouse in a place that would

best ensure the safety of navigation in the Gulf. The greatest minds in this field of navigation expressed their views on the details of how a new lighthouse should be built. There were plans to install an isophase light with equal durations of light and eclipse of 6 min and 40 s. However, a special committee changed these plans and decided that the light of the lighthouse situated on a dune near the village of Kahlberg will flash with a period of three to five s. The light should be visible from a distance of 16 nautical miles (NM) in summer, and 10 NM in winter. Thanks to the efforts of the Gdańsk Merchant Office, the design of the lighthouse was finally approved in Berlin, but the construction started only in 1894.[1]

An interesting fact in the design phase of the new lighthouse was an attempt to use the design of the Heisternest (Polish name: Jastarnia-Bór) lighthouse. This design was presented in 1890 but failed to gain acceptance of the Ministry of Public Works. One reason for the rejection of the design of the lighthouse and the adjacent buildings was probably a small height of the tower – 13 m.

Another design was adopted, dated 1893, which featured a tower more than 20 m high (exactly 23.3 m), as well as an adjacent residential building and outbuildings in the vicinity. The implementation started soon, a full cost estimate amounted to 115,000 marks, of which particular items:

. the lighthouse tower 40,000 marks,
. the lantern room 27,000 marks, – office building 25,000 marks,
. stable 4,000 marks,
. costs of implementing 11,000 marks, – other expenditure 8,000 marks.[2]

The biggest difficulties were encountered when attempts were made to obtain Fresnel lens with a diameter of 750 mm. The German firm Gebrüder Picht, Rathenow, was unable to make and deliver a lens of this size. The advice was then used from a well-known specialist Walter Körte who previously oversaw and managed the implementation of a number of German lighthouses.

In 1894 the construction made quick progress, and the

[1] S. Hartmann: *Danziger Leuchttürme und Seezeichen im 19. und beginnenden 20. Jahrhundert*, "Westpreußen Jahrbuch", 44, 1994, p. 95.

[2] Ibid.

lighthouse was practically completed in the same year. The ceremony to launch the new lighthouse Kahlberg took place only on May 1, 1895.

Fig. 1. Kahlberg lighthouse on the old postcardSource: Author's collection

The lighthouse was finally equipped with burners fuelled with benzol[3], and with third-order Fresnel lens placed on a table rotated using a weight mechanism and screens. The range of the light was 18 NM.

An inspection carried out in 1898 demonstrated that the tower and the optic were in good condition. There was only a small loss in the inner wall, due to the use of stone not very much suitable for the construction of lighthouses. In 1903 it turned out that the access to lantern room was difficult because of numerous holes in the wooden floor of the room. It was necessary to perform a repair shortly. Four years later, cracks were detected in the glass screens of the lantern room. The structure was modified by installing special cylindrical bands. In addition, the service room for the lighthouse keepers had to be enlarged, because it was too small due to the stove and devices mounted there. The Ministry of Public Works provided a total of

3

10,000 marks to do the necessary repairs, which was Benzol – a by-product of coal carbonization, a mixture of benzene, toluene and xylene. Toxic liquid, also used as an additive to gasoline in the 1930s. too small to complete all repairs. All the work was completed only in the subsequent years.[4]

In 1918, the research station Friedrichshagen presented a proposal to replace the lens with a new one, with a focal length of 375 mm, and to change the way the new burner was fuelled. New fuel was to be *Steinöl* (*Steinkohlegas*). In place of a three-wick burner a new burner was proposed, with a brightness of 8–10 HK/cm^2 and less fuel consumption.[5] This project has not been accepted because of the difficulty in handling the gas and the need to build special gas-works. Other projects to change the light system of the Kahlberg lighthouse were put forward only in 1926 and 1927, and suggested the use of liquefied gas and a burner called *Brenner Flügge* with a hanging cover – the filament. In parallel, considered was also the supply of electricity on a permanent basis (electrical power was at that time an emergency power supply). The company *Aktiengesellschaft Kahlberg* undertook to provide it in the amount of 15–30 kW DC 220 V a day. However, the power source of the lighthouse was replaced later.

In 1928 the lighthouse was renovated, and the supply of the light system was switched to liquid gas. This facilitated to a large extent the operation of burners, which since then required maintenance every six hours. The gas installation was assembled by Julius Pintsch firm. The problem that remained was the freezing of lantern room glass in winter. The heating of the lantern room did not help. Similar problems were also faced by other lighthouses, and were solved by mounting double glazing and applying forced ventilation in lantern rooms.

In 1935 the lighthouse, already fed with kerosene, had this characteristic: 2 s light and 4 s eclipse, which gave a period of 6 s.

---

[4] S. Hartmann: *Danziger Leuchttürme* ..., p. 96.

[5] Geheimes Staatsarchiv Preußischer Kulturbesitz in Berlin-Dahlem, I. Hauptabteilung, Rep. 93 B, Ref. 5027, 5056. HK = *Hefnerkerze*, an old unit for light measurement.

The light was visible for 18 NM.[6]

During World War II an additional military crew stationed at the lighthouse. But there is no information about how the lighthouse operated then.

In 1943, i. e., during the war, the lighthouse had the following characteristic: light 2 s, eclipse 9.5 s, period 11.5 s. The burner of the light system was fed with liquefied gas (*Flüssiggas*), and electricity was still an emergency power supply. The range was 17 miles.[7]

---

[6] *Verzeichnis der Leuchtfeuer und Signalstellen aller Meere*, Teil II, Berlin 1935, p. 20.

[7] Ibid., issue from 1943, p. 52.

The end of the Kahlberg lighthouse came in 1945, when the blowing charges installed by retreating German troops exploded. Several Russian soldiers died, buried under the rubble.

Table 1. LH Kahlberg characteristic data, 1943

Coordinates	54° 23′ N 19° 27′ E
Light characteristic	White, flashing 2.0 s, eclipse 9.5 s
Period	11.5 s
Height of tower	23.3 m
Height of light above water	48 m
Range	17 NM
Appearance	Round, red-brick tower with a lantern room and green roof, adjacent to one-storey building

Source: Author's study.

Postwar history of Krynica Morska lighthouse

After the end of World War II, until 1958, the hill on which lighthouse's remains were was called Łysica and in the first period of time it was under the jurisdiction of the Soviet army staying there. Such conditions meant difficult work for Polish Maritime Office experts and it made it next to impossible to explore the lighthouse's remains and its quick rebuilding. The lack of the lighthouse's light made sailing in this part of the Gdańsk Bay and the Vistula Lagoon hard, especially at night. That is why, in order to change this situation, Gdańsk Maritime Office ordered in 1949 to install an acetylene navigating light, with 10 NM[8] range, on the roof of a resort building "Bałtyk", only half a mile away from the destroyed lighthouse. This made the elimination of the lack of light possible.

Gdańsk Maritime Office wanted to restart lighthouses' activities in places where it used to be present before the World War II. That is why a decision was made to built three new lighthouses: Kikut on Western coast and Jastarnia and Krynica Morska. In the late 40s, a new lighthouse for Łysica-Krynica Morska was designed. Just like in

[8] R. Techman: *Służba hydrograficzna terenowej administracji morskiej w latach 1945–1951* [The Hydrographic Service of the Local Maritime Administration 1945–1951], "Nautologia" [Nautology], 2003, 1–4, p. 31.

the 19th century, in the 20th few projects were taken under consideration, including engineer Krzyżaniak's and Building Department of Technical University of Gdańsk's – with its then principle, professor Stanisław Puzyna.[9] The latter project was chosen. It included building the lighthouse from hollow bricks, fastened on foundations having 7.2 diameter, situated 2 m below the earth's surface. A round, 6-meters wide tower of a lighthouse narrows at the top and is 4.5 m wide there. On the top of it there is a metal lantern area with a small gallery and conical roof.

Fig. 2. The Krynica Morska lighthouse, a present-day view Source: Author's collection

A lighthouse's red tower is 27 m high and is situated 15 m from the place where the previous lighthouse stood. There are 115 stairs leading to lantern area, inside which there is a light system containing drum lenses and a two-position changer, in which there are two

[9] Archiwum Państwowe w Gdańsku, Oddział Gdynia [State Archives in Gdańsk, Division in Gdynia], Gdański Urząd Morski [Gdańsk Maritime Office], 3/141.

filament bulb each of them having the power of 1000 W. One bulb lights, the other is a spare one and starts working automatically and immediately when the other one is burned out. Since the beginning of the lighthouse's activity in 1951, its light system has not changed.[10] The light emitted by the lighthouse is seen from the distance of 19,5 NM.

Fig. 3. Lenses optics LH Krynica Morska Source: Author's collection

The celebration of activating the lighthouse took place on August 25, 1951 at 6 : 57 p. m. Waldemar Wallas, then the manager of Gdynia Maritime Office, was the leader of the ceremony.[11]

Table 2. The Krynica Morska Lighthouse's characteristic data, 2002

Coordinates	54° 23′ 13″ N 19° 27′ 12″ E
Light characteristic	White, flashing 2.0 s, eclipse 9.5 s
Period	12 s
Height of tower	27 m
Height of light above water	53 m
Range	19.5 NM
Appearance	Round, red tower with a lantern room white

Source: Author's study.

[10] Author's conversation with lighthouse keepers of LH Krynica Morska: Andrzej Marczyk and Andrzej Włoch (19.05.2006).

[11] A. Łysejko: *Latarnia w Krynicy Morskiej* [The Lighthouse in Krynica Morska], Gdańsk 2007, p. 24.

The lighthouse's tower and its technical building was redecorated in 1996. It was covered with new plaster and paint but in respect to its original colors.

The Krynica Morska lighthouse has always been guarded. Nowadays there are two lighthouse keepers who do this job who are tour guides and show the tourist around the building in free time and explain to them what their duties are.

A senior lighthouse keeper, Andrzej Marczyk, has been working here since 1961. At first he thought that it would be a temporary job, but he has been here for over 48 years. Mr. Marczyk can be retired from 7 years, but it is a difficult decision for him to leave a place where he has spent so much life.

Mr. Marczyk's subordinate is a lighthouse keeper Andrzej Włoch. He has been working here since 1985 after leaving the army and coming back to his hometown.

Both gentlemen feel strongly attached to their place of work and hope that despite the development of navigating technology, lighthouses will still illuminate the way to the sailors, and will also remain visited tourist buildings.

HISTORIA LATARNI MORSKIEJ W KRYNICY MORSKIEJ

Streszczenie

Miejscowość Krynica Morska, w której znajduje się najdalej na wschód położona polska latarnia morska, znajduje się na Mierzei Wiślanej. Rozwój miejscowości, która nosiła niemiecką nazwę Kahlberg, nastąpił w połowie XIX w., kiedy to z inicjatywy kupców elbląskich powstało konsorcjum zajmujące się sprawami żeglugi po Zalewie Wiślanym. Dzięki ich staraniom uruchomiono wówczas liniężeglugową między Królewcem a Elblągiem – do Kahlbergu zaczęli przybywać pierwsi wczasowicze.

Latarnia morska Kahlberg (1895–1945) wzniesiona została 300 m na wschód od miejscowości Kahlberg, na 29-metrowej zalesionej wydmie. Wybudowano ją w celu wypełnienia luki nawigacyjnej (brak widoczności świateł nawigacyjnych), jaka istniała pomiędzy zasięgami świateł latarni na Helu i w Piławie, co utrudniało orientację statkom znajdującym się w centralnej części Zatoki Gdańskiej.

Do realizacji przyjęto zatwierdzony w Berlinie 4 maja 1893 r. projekt wykonany przez Waltera Körtego, specjalisty zajmującego się od wielu lat

niemieckimi latarniami morskimi. Wybudowano wieżę o wysokości 23,3 m z przylegającym do niej podpiwniczonym, jednokondygnacyjnym budynkiem mieszkalnym oraz zabudowaniami gospodarczymi. Zarówno budynek mieszkalny, jak i wieżę latarni wykonano z czerwonej cegły licówki. Szczyt wieży zakończono ośmiokątną latarnią z zielonym dachem. Wewnątrz laterny zainstalowano aparat Fresnela III klasy, który składał się z urządzenia optycznego, czyli soczewki Fresnela, wewnątrz której umieszczona była lampa zasilana benzolem. Przez środek wieży latarni przebiegał tunel, wewnątrz którego znajdowały się ciężarki stanowiące napęd mechanizmu zegarowego, dzięki któremu uzyskiwano odpowiednią charakterystykęświatła. Od momentu uruchomienia do wybuchu drugiej wojny światowej latarnia morska Kahlberg kilkakrotnie przeszła modernizację systemu optycznego, co pociągało za sobą również zmiany charakterystyki światła latarni.

Na czas działań drugiej wojny światowej latarnię dodatkowo obsadzono załogą wojskową. Kres funkcjonowania latarni nastąpił w roku 1945, kiedy na wieży wybuchły ładunki założone przez wycofujące się oddziały niemieckie, grzebiąc pod gruzami kilku żołnierzy radzieckich.

Wzniesienie, na którym znajdowały się gruzy latarni, do 1958 r. zwane było Łysicą i przez pierwsze lata po zakończeniu wojny znajdowało się pod jurysdykcją stacjonujących tam wojsk radzieckich. Taki stan uniemożliwiał polskim specjalistom z Urzędu Morskiego zbadanie pozostałości latarni i szybkie jej odbudowanie. Brak światła latarni znacznie utrudniałżeglugę w tej części Zatoki Gdańskiej i Zalewu Wiślanego, zwłaszcza w porze nocnej. Dlatego też, aby zmienić istniejącą sytuację, decyzją Gdańskiego Urzędu Morskiego w czerwcu 1949 r. na dachu ówczesnego domu wypoczynkowego „Bałtyk", w odległości pół mili od zniszczonej latarni, zainstalowano nawigacyjne światło acetylenowe o zasięgu 10 mil morskich. Dzięki temu zlikwidowano lukę w świeceniu, która pojawiła się w tej części akwenu już po raz kolejny.

Pod koniec lat czterdziestych XX w. rozpoczęto projektowanie, a następnie budowę nowej latarni morskiej w Krynicy Morskiej. Okrągła wieża latarni wzniesiona została z pustaków. Szczyt wieży zakończono okrągłą metalową laterną z galeryjką i stożkowym dachem. Wieża latarni ma wysokość 27 m i stoi w odległości 15 m od miejsca usytuowania wcześniejszej latarni Kahlberg.

Wewnątrz laterny znajduje się system świetlny składający się z soczewki bębnowej i dwupozycyjnego zmieniacza, w którym umieszczone są dwie żarówki żarowe o mocy 1000 W każda. Jedna żarówka świeci, druga natomiast jest zapasowa i włącza się automatycznie po przepaleniu się pierwszej. Od chwili oddania latarni do eksploatacji w 1951 r. system świetlny latarni nie uległ zmianie. Światło latarni widoczne jest z odległości 19,5 Mm. Obsługę latarni stanowi obecnie dwóch latarników: starszy latarnik Andrzej Marczyk i latarnik Andrzej Włoch.