

**7 – National Matters****National Matters – Japan****Efforts for Utilization and Preservation of Historical Lighthouses**

The Japan Coast Guard is undertaking the introduction of new technologies, such as LED light sources, in major lighthouses as part of its efforts to reconcile technical feasibility, operational requirements - such as reducing maintenance costs and eliminating hazardous substances - with the preservation of the historical and cultural value of these maritime heritage structures.

Various types of LED light sources are being adopted, taking into account the specific operational conditions and challenges unique to each lighthouse.

**[Tsurugi-saki Lighthouse]**

Tsurugi-saki Lighthouse, constructed in 1871, was originally equipped with a second-order Fresnel lens rotating on a mercury bath, which was later replaced by a special rotation apparatus.

To reduce operational and maintenance burden, the light source was replaced with an LED in March 2025, while preserving the original Fresnel lens.

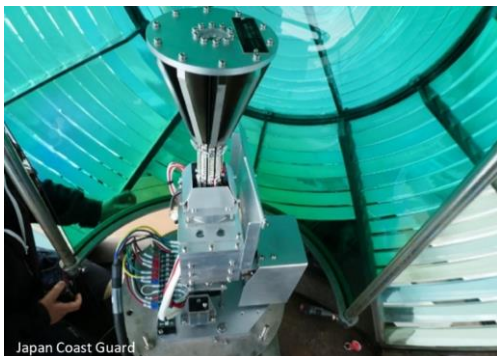
**[Rokko-saki Lighthouse]**

On January 1st, 2024, a major earthquake struck Ishikawa Prefecture, located in the central-western region of Japan. Rokko-saki Lighthouse, originally constructed in 1884, sustained damage as a result of the earthquake. A Fresnel lens, which had been in continuous use since its installation in the late 19th century, was irreparably damaged and could no longer serve its original function.

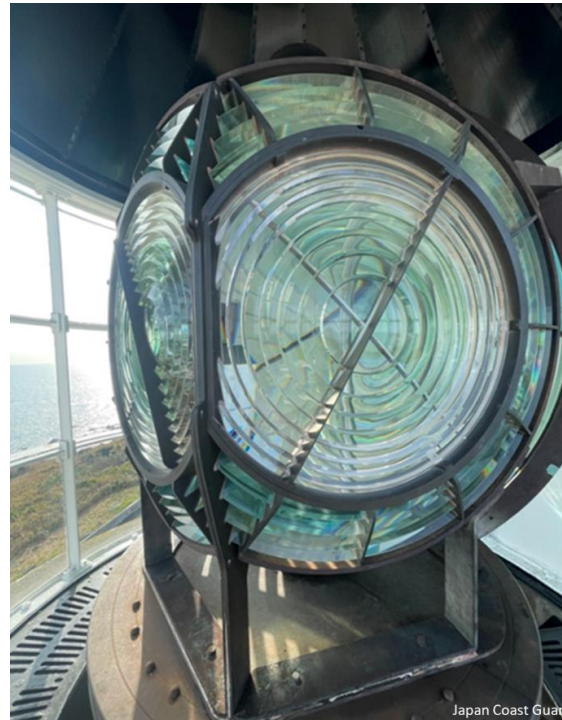
In response, the Japan Coast Guard installed a modern LED beacon as a replacement light source. Recognizing the lens's historical significance and its role as a cherished local symbol, the Japan Coast Guard has decided to donate the damaged lens to the city.



## [Tsurugi-saki Lighthouse]



Newly replaced LED source unit



Second-Order Fresnel lens, made in 1925

## [Rokko-saki Lighthouse]

### Pre-Earthquake



Second-Order Fresnel lens,  
installed in 1884

### Post-Earthquake



Lens detachment



Lens scattering

### Present



Newly installed LED Beacon