



# RATHLIN ISLAND WORK PROGRAMME 2021



**During 2021, Irish Lights will be completing engineering works to upgrade all three Lighthouses on Rathlin Island, while retaining the historic lenses.**

This work will improve energy efficiency and the environmental footprint at these important heritage sites, as well as ensuring the lighthouses meet international standards as working Aids to Navigation used by every-day mariners. This work will also ensure the property and its surrounds are safe and ecologically secure for the communities that live along-side them and visitors who access them.

**This Factsheet** outlines the works involved and is being issued as part of a consultation with the local community.

**Local residents** will be kept informed of progress with the project.

# Rathlin East (1856) and Rathlin West (1919)

In preparation for these engineering works, Irish Lights recently completed a successful three year trial of an innovative bearing system which will allow retention of the First Order rotating Fresnel Lenses at Rathlin East and West Lighthouses.

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## The project at both of these lighthouses will:

- ✓ Retain the current rotating beam from each lighthouse
- ✓ Retain use of existing rotating historic lens
- ✓ Replace high energy lamps (1,000 watts) with LED (70 watts)
- ✓ Remove mercury and diesel generators from each lighthouse, for safety reasons and to improve environmental impact
- ✓ Change the power system to mains with battery backup
- ✓ Reduce the range of the light to 18 miles, as per 2010 and 2015 Aids to Navigation Reviews for the UK and Ireland
- ✓ Promote opportunities for alternative use of buildings
- ✓ Provide full range standby lanterns
- ✓ Reduce cost and maintenance requirements

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## Rue Point (1915)

The project at Rue Point will change the power system to mains electricity with battery backup and see the removal of the diesel generator. The existing lantern will be replaced with a modern LED equivalent and a full range standby light.

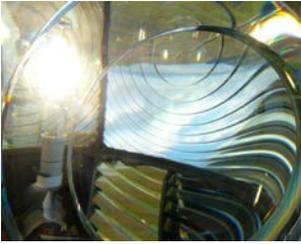
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## Statutory Approvals and Schedule

Irish Lights will engage with the local authorities during 2019 – 2020 and will seek any statutory approvals required.

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All works will be completed during 2021 on a programme designed to avoid impacts on birds, wildlife, and the tourist season on Rathlin.

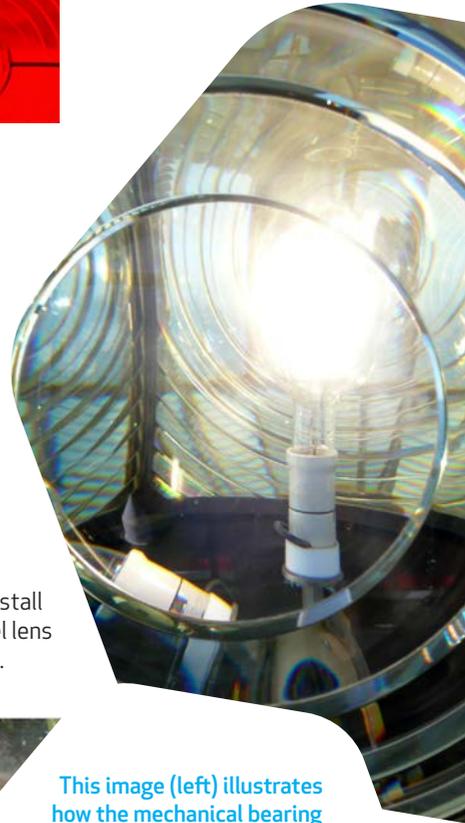


### First Order Lenses and Bearing System

The large First Order Fresnel lenses at Rathlin East and West are exceptional works of engineering. As originally designed the lenses, which weigh several tonnes, rotate on a bath containing more than 30 litres of mercury.

Today, mercury is recognised as a highly toxic substance and Irish Lights and other Lighthouse Authorities are in the process of removing all mercury from lighthouses to improve safety standards.

While alternative, low maintenance options exist, Irish Lights is committed, where possible, to keeping these Fresnel lenses in use to preserve the heritage at its lighthouse sites. In order to secure this Irish Lights will install an innovative bearing system to allow the current Fresnel lens to rotate in a similar manner to how it currently operates.



This image (left) illustrates how the mechanical bearing will deliver the reliable service required of this functioning aid to navigation, while retaining this historical lens.

The lens is rotated on the ball bearing race using a specially designed motor. This design is intended for a number of other onshore lighthouses.

# IRISH LIGHTS AND RATHLIN ISLAND



Commissioners of  
**IRISH LIGHTS** | Navigation  
and Maritime  
Services



## Our Vision – Next Generation Maritime Services

To protect lives, property, trade and the environment by delivering next generation maritime services at the interface of navigation, technology, engineering and data management



## Our Mission – Safe Navigation at Sea

To be a leading and innovative provider of reliable, efficient and cost effective navigation and maritime services for the safety of all.

## RATHLIN LIGHTHOUSES KEY DATES

### Rathlin East

1827	Light first requested
1849	Construction Rathlin stone tower, Red belt
1856	Upper and Lower Lights established
1866	Fog Signal Established
1894	Lower Light discontinued
1912	Converted to paraffin vapour
1934	Painted white, black belt
1972	Fog Signal discontinued
1981	Converted to electric
1995	Keepers Withdrawn
1999	Radio Beacon discontinued

### Rathlin West

1901	Light first proposed
1910	Approved
1916	Completed
1919	Light Established
1925	Fog Signal Established
1995	Fog Signal discontinued Keepers withdrawn

### Rue Point

1914	Light recommended and approved
1915	Temporary Light
1917	Fog Signal Established
1921	Present structure established
1931	Fog Signal discontinued
1965	Converted to electric
2004	New lantern

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