

Girdle Ness Lighthouse

Light Established

1833

Engineer

Robert Stevenson

Position

Latitude 57° 08.3'N

Longitude 02° 02.8'W

Character

Flashing (2) White every 20 secs

Elevation

56 metres

Nominal Range

22 miles

Structure

White round tower 37 metres high. There are 182 steps to top of tower

History

The lighthouse building is listed as a building of Architectural/Historic interest. The shipmaster of Aberdeen requested that a light be established at Girdle Ness, Aberdeen following the wrecking of a whaling ship called the Oscar in 1813. There were only 2 survivors from a crew of 45.

The lighthouse was built by an Aberdeen contractor, James Gibb. The light had a new form of double light, showing 2 distinct lights from the same tower, one above the other, both fixed. The lower light consisted of 13 lamps and reflectors arranged like a garland in a glazed gallery built round the outside of the tower about one third of the way up. In 1890 the lower light was discontinued.

The main light was altered in 1847 and the old lantern which was too small, was transferred to Inchkeith. In 1860 Girdle Ness was visited by the Astronomer Royal, Professor George Airy, (later Sir George) who described it as "the best lighthouse that I have seen".

"fronted to seaward with weather-resisting glass a quarter of an inch thick and gun metal astragals. The dome of the lighthouse looks immense from inside where as from the ground some 136 feet below it looks minute. The lamp is

framed by 2 large concave reflectors which sent its 200,000 candlepower beams 25 miles out to sea on a good night."

Before electrification, the incandescent brightness was attained by pressure-vaporised paraffin, which burned at a rate of 9½ gills an hour. The lamp and reflectors were activated through an arc covering the entire seafront by a clockwork motor and imbedded in a mercury bath to pressure an even bearing. The fog horn was put into operation when visibility fell below 5 miles.

During the 2nd World War a mine drifted ashore on 18 November 1944 and exploded, but damage was mainly confined to the doors and windows in the dwelling house and the tower. The fog signal was discontinued in 1987. The Light was automated in 1991.

The Optic System is controlled using a standard NLB Gearless Pedestal/Lamp Array Controller to link the various elements into an ordered sequence. When one lamp fails, there is a consistent reduction in range of all flashes in the group.

The Gearless Pedestal Drive System is equipped with two drive fluxmeters which operate together and share the drive. Should one fail, one is capable of assuming the drive itself.

Lamp Arrays rotated by Gearless Pedestal Drive Systems are normally installed at sites supplied with mains electricity. These systems rotate only during night time. The Lamp Arrays also have DC supplied reserve lamps for use when the mains fails.

In event of a Main Optic failure, a single Emergency Lantern is automatically selected. This is a 250mm lantern, with a range of 10 miles.

There is also a Racon installed at this site.

Differential Global Positioning System (DGPS)

Girdle Ness is one of a network of twelve (three in Scotland) ground-based reference stations providing DGPS transmissions around the coasts of the United Kingdom and the Republic of Ireland. The other Scottish Stations are Butt of Lewis in the Outer Hebrides and Sumburgh Head in Shetland. The DGPS transmissions were introduced, on a trial basis, on 31 July 1998.

DGPS is transmitted from the MF Radio Beacon and a Standby Generator has been installed to ensure the integrity of this service. The generator is also used to power the other Aids to Navigation in the event of a mains failure.

The public marine DGPS is a satellite based navigation system. It is the newest element of the mix of visual, audible and electronic aids to navigation provided by

the three General Lighthouse Authorities of the UK and the Republic of Ireland under their Marine Navigation Plan.

It is an open system - available to all mariners - and is financed from light dues charged on commercial shipping and other income paid into the General Lighthouse Fund.

The light and DGPS is monitored using the NLB telemetry system over the PSTN telephone network to the Northern Lighthouse Boards headquarters in Edinburgh. This is manned 24 hours and checks the operation of over 70 lighthouses around Scotland and the Isle of Man.

It should be noted that at some sites the Northern Lighthouse Board have sold some redundant buildings within the lighthouse complex and are not responsible for the maintenance of these building.