

= Norah Head Light =

Norah Head Light is an active lighthouse located at Norah Head , a headland on the Central Coast , New South Wales , Australia , close to Toukley . It is the last lighthouse of the James Barnet style to be built , and the last staffed lighthouse constructed in New South Wales .

Officially displayed for the first time in 1903 , the original vapourized kerosene burner was upgraded in 1923 , electrified in 1961 and automated and demanned in 1994 , after more than 90 years of being staffed . It celebrated its centenary in 2003 .

The concrete block tower is 27 @. @ 5 metres (90 ft) high , topped by a bluestone gallery . On top of the gallery is the original Chance Bros. lantern . This lantern holds the original housing of the Chance Bros. 1st order bivalve dioptric Fresnel lens . Other important structures include the chief lightkeeper 's cottage and assistant keeper 's duplex , and a flag house .

= = History = =

Calls for construction of a lighthouse at Norah Head (then " Bungaree Noragh Point ") were made as early as 1861 due to many wrecks occurring in the area . A notable supporter in the end of the 19th century was local landholder Edward Hargraves from Noraville . However , these efforts were fruitless for many years . The first formal recommendation to construct the lighthouse was made by the Newcastle Marine Board , just prior to its abolition , in 1897 .

The lighthouse was designed in a style similar to the style of James Barnet , by his successor Charles Assinder Harding , who also designed Cape Byron Light and Point Perpendicular Light . It is the last to be designed in this style .

Construction commenced in 1901 , undertaken by day labour . Materials were brought by boat and unloaded on a wharf constructed at Cabbage Tree Harbour for that purpose . It was officially lit on 15 November 1903 , two years after Cape Byron Light . The first keepers were N. H. Williams as chief keeper , with N. Hanson and S. Kells as assistant keepers .

The cost of the tower and cottages was nearly £ 24 @, @ 000 , £ 19 @, @ 000 for the construction of the tower and £ 5 @, @ 000 for the optical apparatus , a Chance Bros. 1st order bivalve dioptric Fresnel lens with 700 prisms

The original light source was a vapourized kerosene burner and mantle generating a light intensity of 438 @, @ 000 cd , visible for 18 nautical miles (33 km ; 21 mi) . The original mechanism was a grandfather clock @-@ type mechanism with the counterweights going down a 100 feet (30 m) central column . The weights went down gradually as the light turned and had to be wound every half an hour . The light revolved every 10 seconds , and was floating in a mercury bath of more than 15 @, @ 000 pounds (6 @, @ 800 kg) to lessen the friction . The high speed of rotation made operating the light while it was active very difficult .

On 13 April 1923 the light source was upgraded to a Ford @-@ Schmidt kerosene burner with an intensity of 700 @, @ 000 candlepower . It was changed to revolve every thirty seconds in 1928 , to ease the operation . The stables originally constructed at the complex were converted to a garage in 1960 .

On 28 March 1961 the light was electrified , with mains electricity as the power source , and an intensity of 1 @, @ 000 @, @ 000 cd . The drive was replaced with a 0 @. @ 3 amp electric motor . At the same time the staff was cut from three lightkeepers to two .

The light was automated and demanned in 1994 . It was one of the last stations in Australia to be demanned , after over 90 years of being staffed .

The current light source is a 1000 Watt 120 Volt tungsten @-@ halogen lamp , which flashes white every 15 seconds (F.I.W. 15s) and can be seen for 26 nautical miles (48 km ; 30 mi) . It also shows a fixed red (F.R.) and green (F.G.) lights for coastal shipping .

The lighthouse celebrated its centenary on 15 November 2003 , and the lighthouse appeared on the cover of the Wyong Shire Council annual report for 2003 .

= = Structures = =

The lighthouse is a 27 @.@ 5 metres (90 ft) tower , made from concrete blocks . The concrete blocks were made on the ground using a local aggregate , lifted and cemented into position and finally cement rendered inside and out with deep ashlar coursing , and painted white . This technique was used in the period to reduce the cost of construction .

On the inside of the tower there are 96 steps leading to the gallery in 4 stages , the first 3 of the same grade and the last stage a bit steeper and narrower . The staircase is made of concrete with slate treads and cast iron and brass balustrade .

On top of the tower is a bluestone gallery and balcony with gunmetal railings . The gallery has a painted cast iron floor grate with a cast iron stair leading to the outdoor gallery . The lantern room is atop this gallery , made of metal and glass , encircled and protected by perspex and aluminium panels . It has a decorative iron catwalk encircling the glass to allow for cleaning . The lantern house is the original 3 @, @ 700 millimetres (150 in) Chance Bros. cast iron and copper lantern house , one of about 21 known to exist in Australia .

On the ground floor there is an entrance door made of cedar set with sidelights and fanlight , with an etching on the door glass saying *Olim Periculum Nunc Salus* , Latin for " Once Perilous , Now Safe " . Above the door is the writing " ? A1903D ? " , stating the year of official lighting . There is also a " ghost door " on the outside which was planned but never completed .

The first floor comprises an entry hallway and two rooms . The hallways is set with tessellated tiles and still has the original desk for the visitor 's book . Of the two rooms , one was the report room used for administrative work , record keeping and logbooks . It is currently used as a radio room . The second room housed a spare mantle holder . It currently houses the electrical controls , including the sensors responsible for starting the light . It also houses the backup batteries , backup diesel generator and fuel tank , as well as a small workshop .

The accommodations in the complex consist of a lightkeepers cottage with garden and Assistant Keeper 's duplex , both constructed from concrete blocks , unpainted from construction , and originally having " Marseilles pattern " terracotta tile roofs . The keeper 's cottage includes an open verandah on three sides , with cast iron posts and curved timber beams . The hipped roof is still the original terracotta tiles and one chimney remains . As for the duplex , circa 1970 the roof was replaced with concrete tiles and the chimneys have been demolished .

Also constructed were a small fuel store , workshop , paint store and earth closet near the keeper 's cottage , and two fuel stores with earth closet and sink for the assistant cottages . All were constructed in the same form , from unpainted concrete blocked and the same terracotta tile roofs . All still remain in the complex , pretty much intact .

As of 2010 , one of the cottages is occupied by a resident keeper and another two are available for overnight accommodations .

Another structure at the complex is a small signal house , which was constructed as a flag house for the timber flagstaff , both constructed with the original structures in 1903 . The flag house was constructed to match the lighthouse , from precast concrete blocks , rendered walls , with the same plinth and deep ashlar coursing . The roof is made of concrete in a shallow hipped form , in contrast to the concrete dome proposed in the original drawings . The flag locker now houses maritime signal flags . The timber flagstaff was removed at an unknown date , and what remains of it are a concrete and steel base , a concrete apron , and four concrete and iron anchor points .

A stable was also constructed at the premises from the same concrete blocks with Marseilles pattern terracotta tiles . In 1960 , as the stables were being converted to a garage , the roof tiles were replaced with a concrete tiles . Three timber doors to the former stable , tack and carriage rooms remain .

Also at the complex are underground fresh water tanks and sealed off condensation water tank beneath the tower .

About 100 metres (330 ft) up the hill there used to be a weather station , a mother station for Montague Island in the south and South Solitary Island in the north . Reports used to be collected and sent to the Weather Bureau in Sydney . This is all done now electronically .

= = Site operation = =

The light is operated by Roads and Maritime Services (formerly NSW Maritime) , while the lighthouse reserve is managed by the New South Wales Department of Landssince 1997 . The Norah Head Reserve Lighthouse Trust is a government appointed trust " Dedicated to the preservation , conservation and management of the Norah Head Lighthouse Reserve . "

= = Visiting = =

The lighthouse is on a narrow strip of land that separates the sea from Tuggerah Lake . The site is accessible and the lighthouse is open for guided tours on weekends and for group bookings during the week . Two cottages are available for overnight staying , housing eight people each . It is also available for weddings .