THE MAKING OF PORT KEMBLA:

[Reprinted by kind permission of the Australian Railway Historical Society, N.S.W. Division, from articles by the late Mr. Gifford H. Eardley, a prominent railway historian, former President of the St. George Historical Society, and author of "Transporting the Black Diamond" and numerous other publications. These articles first appeared in the Bulletin of the Australasian Railway and Locomotive Historical Society (as it then was) for September to December 1948].

A SCHEME for the construction of a deep water harbour at Port Kembla was investigated during the year 1896, by the Harbours and Rivers Branch of the New South Wales Public Works Department. The need for a sheltered coastal harbour, where vessels would be able to safely load and unload in all states of the weather had long been felt and it was thought necessary that something should be done in the matter. For many years a large quantity of the coal obtained from the Southern collieries was transhipped at Sydney and this was generally regarded as a very serious obstacle to the development of the coal trade and commerce of the Illawarra district. With this object in view, the Government considered a plan providing for the construction of two breakwaters; one, the eastern, to be 2,800 feet in length, and the second, or northern, to be 3,530 feet in length, which would enclose an area of 260 acres, having a depth of 24 feet and over at low water. The proposal was in due course referred to the Parliamentary Standing Committee on Public Works, who, after an exhaustive enquiry, gave approval to construct the eastern breakwater, together with the necessary shipping facilities, the cost of which, according to the vote of Parliament, was not to exceed £200,000 plus ten per cent.

The building of the eastern breakwater commenced soon after its construction was sanctioned by Parliament. The stone used was obtained from a quarry opened by the Harbours and Rivers Department on the side of a hill to the south of the proposed harbour at a distance of about half a mile from the root of the breakwater. Here large blocks of augite andesite suitable for the work could be quarried. The spoil from these operations was used to form the embankment between the quarry and the breakwater site, the rails being then laid along this formation with loops at convenient positions. A connection was also made with the Mount Kembla Coal and Oil Company's railway in order to allow the transport of coal and plant to the quarry workings. It was necessary that the line leading to the breakwater should cross the high-level shunting neck which was used by the Mount Kembla Company for gravitating its coal trucks to the loading jetty; thus enabling the stone trains to pass underneath without obstructing the coal traffic.

The quarry equipment provided at the commencement of operations was imported from England and consisted of one ten-ton and two thirty-ton locomotive steam cranes together with a number of side-tipping and end-tipping stone trucks, the latter vehicles being of exceptionally heavy construction.

It can be easily understood that this project involved the quarrying of some hundreds of thousands of tons of stone and, owing to the exposed position of the breakwater, it was considered advisable that no stone less than four tons in weight should be used in its construction. A great number of the stones deposited weighed over forty tons each. The policy of
using only the heavy weight stones ensured a good, strong, and permanent work, which has withstood the stormiest weather on that part of the coast. In quarrying such huge boulders it was inevitable that a large proportion of small stones had to be discarded, not less than sixty-three per cent. being below the four ton limit; this rejected material was used for reclaiming the swampy western foreshores of the harbour.

In order to have complete control of the harbour and shipping facilities at Port Kembla, the Harbours and Rivers Department made arrangements to resume the coal loading jetties and portion of the railway lines belonging to the Mount Kembla Coal and Oil Company and the Southern Coal Company. These properties were taken over by the Department during 1902, both of the coal companies being allowed to lease their former property for a short period. Extensive repairs were carried out by the Department on the two jetties as they were both in a rather decayed condition.

During August, 1905, it was decided to call tenders for the completion of the eastern breakwater. Four quotations were received, but on examination of the prices given by the various contractors, the Government thought that it would be more economical to finish the construction with day labour.

The lease held by the Southern Coal Company of their former jetty, known as No. 2, or the “Big Jetty,” expired towards the end of 1905. Fresh tenders were called for a period of six years, and on January 1, 1906, that of the North Bulli Coal Company was accepted. The Southern Coal Company consequently were compelled to make arrangements for the transport of their coal trains over the railway of the Mount Kembla Coal Company between Unanderra and Port Kembla; the Public Works Department constructed a railway connection to permit this traffic to be shipped at either of the two jetties.

The original quarry extended a long way into the hillside at this period, and on account of the large blocks of stone required, the cost of quarrying became excessive. It was therefore decided to search for another location. Surface indications on Reid's Hill, about one and a quarter miles to the west of the existing quarry, on private property were investigated. After numerous drilling tests had been carried out, it was found that the stone was suitable, and steps were at once taken to resume the property, an area of thirty-five acres and the access thereto being taken over. The old quarry was abandoned on August 31, and the first stone quarried from the new site deposited on the breakwater on October 27, 1906.

The beginnings of the great industrial life of Port Kembla took place when the directors of the Australian Smelting Corporation of Dapto decided to take advantage of the facilities afforded by the new harbour. An area of about 63 acres of land in the vicinity of the old quarry and adjacent to the harbour was sold to the Corporation, which at once proceeded to construct smelters on this site. A jetty suitable for the requirements of the Smelting Corporation was erected between the lee of the breakwater and the jetty in use by the Mount Kembla Coal Company. The work was carried out by Messrs. Dahl and Jacob, and completed in May, 1909.

A second large firm, known as the Electrolytic Refining and Smelting Company, acquired from the Harbour and Rivers Department an area of about fifty-two acres at Port Kembla, and erected extensive buildings and plant. The railway line constructed by the Australian Smelting Corporation
was taken over by the Public Works Department, and a short line was laid connecting the Electrolytic Company's Works with the Departmental railway system.

Work on the northern breakwater at Port Kembla was commenced during April, 1908, a reef of rocks immediately south of the entrance to the Tom Thumb Lagoon being utilised for the foundation. The wall itself was constructed of reject material from the quarrying of the large components of the eastern breakwater; it has already been noted that some of this small stuff had been used in the reclamation of the harbour foreshores, including the approaches to the reef. Provision was made to prevent the stone from being washed into the sea by the scouring action of the waves.

(To Be Continued)
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A decision was reached early in 1911 to replace the former Southern Coal Company's jetty with a special coal-loading pier, 840 feet in length, designed to allow the vessels to come alongside and receive the coal direct from an endless belt conveying the coal from unloading hoppers erected at the shore end. On the new system the railway trucks do not run on the pier itself, but are discharged into the hoppers. To facilitate the handling of the now quite extensive volume of coal traffic from the various South Coast collieries, a circular loop-line was constructed to connect with the new hoppers, and large storage sidings, known as North and South sidings, were provided for the accommodation of laden and empty coal wagons. The loaded hopper trucks were brought to the North sidings by the privately owned locomotives of the collieries concerned, and were then taken by the engines of the Public Works Department to the unloading bin, each truck being spotted over the bin and its contents dumped. The empty vehicles were then hauled to the South sidings to await their return to the colliery. From the unloading bin the coal was conveyed by means of the endless belt to the adjustable loading chutes at the deep water end of the pier, and discharged into the vessel's hold. The first shipment handled with the new appliance was loaded into the S.S. Bat during April, 1915.

By June, 1911, the expenditure on the Eastern breakwater had reached its authorised limit, and it was decided that work on this project should cease. The construction of the Northern wall was proceeded with, however, as it was deemed necessary for the better protection of the harbour. A very severe gale was experienced during the month of July, 1911, the huge waves sweeping the breakwater from end to end, shaking it considerably and rolling the large stones into the sea side of the structure. It took over four months to repair the damage. An extra five feet was also added to the Northern wall, to afford greater protection from the heavy seas. To give an idea of how the shipping is sheltered in Port Kembla Harbour, it is only necessary to state that the wall of the Eastern breakwater has a height of 21 feet above low water at spring tide, while the Northern breakwater is 19 feet above low water at spring tide.

A demand for small stone crushed to a size suitable for road-making purposes was met by the installation of a gyratory crusher on a site adjacent to the Reid's Hill quarry. The Public Works Department constructed a short siding, which branched off the Reid's Hill quarry and led to the metal storage bins that had been erected at the crushing plant. Upon the completion of the work in July, 1912, the new unit was transferred to the control of the State Metal Quarries Branch.

The lease held by the North Bulli Coal Company of the former Southern Coal Company's high level jetty No. 2, was taken over by the Public Works Department on the 1st July, 1912. When the railway between the No. 2 jetty and Unanderra came into the possession of the Government, numerous representations were made on behalf of various industrial organisations to have the line placed in good order so that coal, coke, and general merchandise could be transported over this route. Prior to 1912, this traffic
had to be hauled over the Mount Kembla Coal Company’s private railway at that Company’s convenience, and it was generally thought that it would be a great benefit to the Port Kembla area to have an independent railway system. In November, 1912, the Public Works Department undertook the haulage and the shipment of coal and coke from the exchange sidings at Unanderra. Only absolutely necessary maintenance was carried out on the railway to Unanderra in view of the Department’s intention to construct a railway from Port Kembla to Wollongong and abandon the Unanderra line.

The construction of the Wollongong to Port Kembla railway by the Public Works Department was undertaken about this period. The old Manning Wardle locomotive, *Iluka*, No. 26 was in constant employment during the formation and subsequent ballasting of the line. The new railway, two miles twenty-two chains in length, left the former North Bulli Coal Company’s railway at the site of the present Cringila station, and passing along the western shore of the Tom Thumb Lagoon, proceeded in a general northerly direction until the Illawarra Railway was reached at Mount Drummond Junction (Coniston). The connection was located about one mile to the south of the Wollongong railway station. Upon its completion, the line was transferred to the Railway Commissioners, the actual date of transfer being July 31, 1916.

(To be continued)
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Commencing from July 31, 1916, all coal and goods consigned to Port Kembla was conveyed by Railway Department locomotives over the new route to the exchange sidings previously constructed by the Public Works Department in connection with the modern coal loading jetty. From these sidings the trucks were hauled to their various destinations by the locomotives owned by the Public Works Department. The old Southern Coal Company’s railway was now abandoned, and the two locomotives that had been allotted for working the line were used on shunting duties around the harbour, releasing several of the older engines from this service.

The need for a railway passenger service between Wollongong and Port Kembla was being continually stressed by various local bodies, and accordingly arrangements were made between the Railway Department and the Public Works Department to provide a passenger train. Two locomotives, PWD Nos. 28 and 29, were specially fitted with the Westinghouse
Air Brake equipment by the Public Works Department to haul the trains, the Railway Department providing the necessary carriages and accepting the responsibility for the collection of fares. The service was inaugurated on January 5, 1920, and was maintained under dual control until January 1, 1921, when the Railway Commissioners took over the present running. It is understood that the starting of the Port Kembla trains from the Down dock platform at Wollongong created certain shunting complications which were later obviated by working these trains through to North Wollongong for reversal. A small platform was built at the Spring Hill road level crossing but it was never given a name and was very rarely used.

Between the years 1920 and 1924 extensive repairs were carried out on the northern and eastern breakwaters and also on the sea wall. The eastern breakwater was also extended in order to provide additional protection to the harbour. It is of interest to note that the total amount of stone quarried by the Public Works Department at Port Kembla for the harbour works up till the year 1925 reached the enormous total of 2,737,778 tons. Owing to the reduced amount of stone obtained from the Reid’s Hill quarry, suitable for inclusion in the breakwaters, it was necessary to acquire another source of supply. Several locations were considered and tested before it was finally decided to purchase the property known as Gillan’s Farm, situated on the Five Islands Road at a distance of about three miles from Port Kembla.

Railway connection with the new quarry site was opened during 1926, the Public Works Department taking over the Mount Kembla Company’s railway from Port Kembla to the Gillan’s Quarry junction. At this point the department erected an elevated signal box (without signals), known as Kelly’s Box, to protect the Mount Kembla Coal Company’s trains when they worked over the line to the shipping jetty. Upon the completion of the railway into the quarry the equipment of steam cranes, shovels, etc., was transferred from the Reid’s Hill working and preliminary operations commenced. To accommodate the locomotives employed on the haulage of the stone trains the Public Works Department built a single-road running shed on a site adjacent to the entrance to Gillan’s Hill quarry. Arrangements were made with the State Metal Quarries for the removal of their stone-crushing plant from Port Kembla to the new quarry in order to utilise all stone up to four tons weight. Quarrying operations at Reid’s Hill actually ceased on August 17, 1928, but it was decided not to remove the locomotive running sheds and workshops from this locality.

The dumping of the huge boulders from the stone trucks was an occupation which called for a considerable amount of skill and care; the usual method adopted was to sprag the wheels of the vehicle and then place a jack under the stone and thus lift it until toppled over the end or side of the truck. At other times the locomotive was used to push the stones from the trucks, by means of a large baulk of wood interposed between the stone and the buffers of the engine: this was a safer and more satisfactory way. However, on one occasion in December, 1919, the pole slipped and locomotive No. 34 followed the stone into sixty feet of water. Salvage operations were immediately commenced, and a large floating dredge brought down from Sydney. Divers were then sent down to locate the exact position of the locomotive, slings were attached, and it was slowly raised to a position just below the surface of the water. Powerful tugs then took over and moved the dredge and its submerged burden to the jetty where
a set of shear-legs had been previously erected in readiness to make the final lift. A wire rope was now attached to No. 34 reeved through the lifting tackle on the shear-legs and fastened to the two locomotives needed to lift the engine from the water. After careful manipulation, it was safely landed on to the jetty railway, and subsequently taken to the Reid’s Hill workshops for inspection and overhaul. (Concluded)