

northern islands and of the lack of coaling facilities in the Pacific, and also with a view to economy in space. The Samoan Administration submitted rough specifications and a drawing of the type of vessel that would be suitable for their requirements. To these plans were added certain requirements of the New Zealand Government in regard to the provision of accommodation for officials and a limited number of passengers, and these rough plans were forwarded to the High Commissioner, London, with instructions to obtain from various well-known shipping firms detailed plans and specifications, with prices for a suitable vessel based on the data forwarded.

The High Commissioner amplified the information forwarded from New Zealand and incorporated a set of special conditions. Upon these requirements tenders were invited from twenty-two ship-building firms, forty-one tenders being received, accompanied by plans and specifications prepared by the various tenderers.

The High Commissioner, London, recommended that these tenders should be submitted to the Government Consulting Engineer for New Zealand in London for criticism, and that in the event of a contract being made the inspection of the vessel during building should be left to him. This recommendation was adopted by the Government, there being no engineer competent in motor-driven or fruit-carrying ships available in the New Zealand service, while the High Commissioner, London, was in a position to obtain the advice of the world's experts. The tenders were eventually placed in the London Consulting Engineer's hands, and the following extracts from his reports are worthy of quotation :—

"I think no doubt can exist that in a vessel of this design the most important factor lies in the main engines. I have therefore spared no effort to satisfy myself as to the merits or demerits of the various models put forward in the tenders.

"The Vickers-Petters engine is a two-stroke cycle engine of the cold-head solid-injection type. The design and reliability of this engine has been occupying my attention, for which purpose I visited the makers' works and witnessed an exactly similar engine under test. Being of the two-stroke cycle principle, I was doubtful whether or not it was preferable to the four-stroke engine. I have therefore seen several installations working, and also visited Messrs. Atlas Diesel Co.'s works in Stockholm and discussed matters with their designers, as they have had more experience with the two-stroke engines for marine purposes. From this point of view I am satisfied the two-stroke engine is preferable to the four-stroke, principally in the much more even turning movement, elimination of valves and their attendant maintenance charge requiring extra skilled labour. The other point concerning the Vickers-Petters engine is the solid injection of the fuel. This is preferable to the use of air at high pressures, being much safer, and also eliminating the compressor. In addition to the above, the Vickers-Petters engine is of less weight than the four-stroke engine, and occupies less space. The importance of this feature is easily understood, in that to carry a given dead-weight the hull of the ship must be larger with a large heavy engine than with a lighter engine, and more so as the size of the engine again has to be increased to propel the larger hull. The largest engine of this type made is limited to 600 h.p.

"I am therefore able to recommend the installation of the Vickers-Petters engine in this vessel. . . . After having studied very fully each of the tenders, it is clear that the best offer and value for money is in that from Messrs. Dublin Dockyard Co. This company, at the present moment, are building in their yard two tugs, one for the Wanganui Harbour Board and another for the Bluff Harbour Board, equipped with the Vickers-Petters type of engine which is proposed for this vessel. In addition to producing good work, this company is owned and supported by Messrs. Vickers Ltd., whom I have always found anxious to give satisfaction. The auxiliary machinery proposed appears adequate for the requirements, and the refrigerating machinery requires no comment. I recommend the authorities in New Zealand to accept the tender of Messrs. Dublin Dockyard Co."

The tender of Messrs. Dublin Dockyard Co., with Vickers-Petters engine, as recommended by the Government Consulting Engineer, London, was accepted by the Government, the contract price being £54,000, with extras (as per Appendix C) £4,869 10s., a total of £58,869 10s.

The "Maui Pomare" was launched on the 29th September, 1927, and left Southampton for New Zealand, via Panama, Apia, and Niue, on the 1st March, 1928. She discharged cargo at Apia and loaded a small cargo of bananas at island ports, reaching Wellington on the 1st June, averaging 10 knots on the voyage. The banana cargo landed in Wellington in excellent condition.

Itinerary.—The vessel was docked for survey on her arrival, and entered into service on the 26th June, 1928, on the following itinerary: Auckland–Niue–Apia–Niue–Dunedin and Lyttelton (alternately), Wellington–Auckland; Auckland–Norfolk–Auckland.

Volume of Trade.—For the nine months ended 31st March, 1929, the vessel made fifteen trips from the islands to New Zealand (eight from Samoa and Niue, and seven from Norfolk), and handled the following cargoes: Auckland, 2,080 tons, and 55,000 ft. of timber; Wellington, 926 tons; Lyttelton, 1,961 tons; Dunedin, 665 tons. Aggregate: North Island, 3,006 tons; South Island, 2,626 tons—total, 5,632 tons.

Included in the above figures are 46,000 cases of bananas shipped direct for southern ports.

Revenue and Expenditure Account.—The total expenditure for the ten months ended 31st March, 1929, exceeded the revenue by £1,972 12s. 1d., as under:—

		£	s.	d.
Total expenditure for period ended 31st March, 1929	..	..	22,159	15 6
Total revenue for period ended 31st March, 1929	..	..	20,187	3 5
Balance of expenditure over revenue	..	..	£1,972	12 1

These figures include depreciation (£2,452 18s.), insurance on hull and machinery (£1,226 12s. 6d.), but not interest on capital, £2,425 18s. 8d.