

INTRODUCTION

The 600 horsepower Fullagar diesel engine and its 400 kilowatt 3,300 Volt alternator operated in the power house in Faraday Street, Napier, New Zealand from 1925 until 1970.

The plant has been donated to the Hawkes Bay Museum of Technology where it will remain in its original location. The Museum has arranged to lease the old power house building from the Napier City Council.

The purpose of this publication is to record the history of the Fullagar plant.

Because it is 21 years since the plant was last operating, some of the records no longer exist. Fortunately a number of former staff members were able to contribute information about the plant.

The engine was built by the English Electric Co Ltd at its Willans Works, Rugby, England in 1923.

Only two engines of this size were ever built⁽¹⁾. The other was used by the English Electric Company at its works at Rugby from 1922 until 1950 and subsequently placed in the Company's Museum when it was placed on display on the lawn where it deteriorated. It was finally scrapped⁽²⁷⁾ about 1980.

It is believed to be the only diesel engine of its type used in New Zealand and is possibly the only surviving Fullagar engine in the world.

What appears to be the first trial run for the acceptance test for the Napier plant took place on 4 September 1925 when the following entry appeared in the log book:

"Trial test was run this day: engine ran satisfactory on full load for eight hours: trouble then developed and the engine lost load: engine picked up load again and continued running on full load for another three hours."

It was not until 21 April 1927 that the following entry appeared in the log:

"Fullagar ran the trial test with satisfactory results, everything OK."

By this time preparations were in hand to receive power from the Government's hydro-electric station at Mangahao, near Shannon, 200km south of Napier. In fact only two months later, on 1 July 1927, hydro-power was received at Napier.

As the hydro-supply contract provided that existing plant be retained only for standby purposes, it might be expected that the Fullagar plant would have not been required for much running and eventually would have been retired in debt.

This was not to be the case as power shortages in successive years made frequent demands on the running of the plant. The shortages were due to 'dry' years and insufficient hydro plant to meet the load growth. Details of the plant running are given in Appendix 2 on pages 14-17.

Technical data on the plant is detailed in Appendix 3 on page 18 and outline drawings appear in Appendix 8 on pages 29-36.