

NOTICE IS HEREBY GIVEN THAT AN EXTRAORDINARY MEETING OF THE GORE DISTRICT COUNCIL WILL BE HELD IN THE COUNCIL CHAMBERS, 29 CIVIC AVENUE, GORE ON TUESDAY 8 SEPTEMBER 2009, FOLLOWING THE CONCLUSION OF THE FINANCE AND POLICY COMMITTEE MEETING

**Stephen Parry
CHIEF EXECUTIVE**

4 September 2009

A G E N D A

1. MATAURA SWIMMING POOL – BOILER REPLACEMENT

During routine maintenance undertaken in readiness for the opening of the Mataura swimming pool, it has been discovered that the existing coal fired boiler has degraded to such an extent that a replacement is likely to be required.

A full report will be provided prior to the meeting.

MATAURA POOL BOILER

(Memo from General Manager District Assets – 04.09.2009)

Introduction

Over the winter months and off season for the Mataura Pool, plant maintenance has been undertaken. A specialist sub-contractor was contacted at the start of July to carry out the maintenance on the pool plant. CH Faul and Co LTD arrived mid August to conduct the maintenance on the boiler. This involved a gasket and seal replacement. The first half of this phase of gasket replacement was undertaken last winter. Following the installation of the remainder of the new gaskets the sub contractor discovered two areas where the water jacket was weeping, a sign of weakening metal. The discovery triggered further exploration of the boiler where the subcontractor then uncovered several areas where degradation of the metal is to such a degree that if the boiler is operated, in its expert opinion, it is extremely likely that it will fail. In addition to the boiler failure, grave concerns have been expressed with the condition of the flue. Being steel lined, corrosion was found in the flue the same as in the boiler. It is recommended that the flue be replaced as well.

I am reliably informed that the engineers from Alliance Freezing Works have had some involvement with the pool in the past. To this end I contacted Mr Murray deGroot, the Chief Engineer at Alliance, Mataura and asked if he had any advice. He directed to me a Mr Chris Austin who is an employee of Rayners in Invercargill. On 3 August, Chris Austin, John Faul and I went and inspected the boiler as it had been removed from the Mataura Pool. In inspecting the boiler it became quite apparent that it was no longer fit for its purpose.

There was a huge amount of corrosion on the fire side of the boiler. This corrosion takes place due to the operating temperature of the boiler being too low. When the operating temperature of the boiler is below 65 degrees, condensation forms on the fire side of the boiler. This condensation combined with the sulphur that comes with lignite coal and the burning of it starts attacking the surfaces in the boiler. I have inserted a picture below which clearly shows the degradation of the metal and how it is flaking away. It is extremely apparent that the boiler was no longer fit for purpose. In addition to the pictures please find appended a letter from Chris Austin of Rayners stating the condition of the boiler and reasons for failure.



Background

The current boiler unit at Matura Pool was supplied and fitted by CH Faul and Co Limited in October 2003 at a cost of \$42,000. At that time it replaced a boiler that delivered 40-50 years of service. Currently we have had six years of service from this unit. Our initial inquiries centred around the unit only operated for part of the year, yet only lasting for six years. However, it transpires that degradation occurs at a faster rate when the unit is exposed to regular fluctuations in temperatures compared to one that is constantly running. We are surprised at the relatively short life span achieved from this boiler and as a result have been furthering our investigations into expected lifespan.

Having inspected the existing boiler installation I am not convinced that a suitable bypass was installed to maintain the boiler temperature when the heat was not required for the pool. Typically a boiler such as this should have an operating temperature of 80 to 85 degrees and this prevents any condensation forming inside the boiler fire box. This prevents acid attacks on the metal surfaces.

In investigating the failure, it is understood that the boiler has been operated and cleaned by a third party and over time the original person undertaking this work has since moved on and it was delegated to another person.

Where to from Here?

This unexpected revelation comes at a very inopportune time as the pool is due to open on 26 September 2009. As a result of this boiler failure, the pool will be unable to open until a replacement is installed.

Option 1

Upon viewing the boiler from the Mataura Pool it was clearly evident that there is no sense in trying to repair the boiler. In doing so, the risk of failure or even hurting someone was considered too high. Mr Chris Austin from Rayners pointed out there might be a boiler available with the imminent demolition of the Southland Hotel in Invercargill. In pursuing this option John Faul and I went to inspect the boiler and found it to be an integral part of the building and a different type to what we currently have. There would be major expense in removing the boiler, bringing it to Mataura and modifying the building to accommodate it. It should also be noted that this boiler is 20 years old and considered to be at the end of its life. It represents an option but its appropriateness to meet the ongoing needs of the Mataura Pool is questionable.

Option 2

It is possible to obtain a suitable sized diesel fuelled boiler and install it at Mataura Pool and still meet the required opening date of 26 September. However, the ongoing operating costs of a diesel fuelled boiler were considered to be prohibitive in terms of operating the pool.

Option 3

Replace the existing boiler with a new boiler, coal fired and relevant control systems be installed in order to maintain the 85 degree temperature in the boiler.

The current estimate for this work is \$75000 - \$93000 dependant on boiler selection.

In investigating the coal fired boiler, a number of coal fired boilers have been commissioned in schools and are now operating on wood pellets or dried wood chips. The option of a coal fired boiler with the opportunity to change to an alternative fuel in order to meet the reduction of CO2 emissions could be an option in the future. Installing a coal fired boiler does not necessarily preclude us from moving to an environment friendly fuel source at some later stage.

Option 4

Close the pool for this season in order to consider the following:

- A sustainable delivery of a more cost effective service in Mataura
- Investigating the feasibility and cost of insulating the entire facility to retain heat
- Solar vs electric vs replacement coal fired boiler

Funding Issues

There are currently no excess reserve funds available for the Aquatic Facilities activity as all funding generated via depreciation is currently being utilised to cover the costs on the existing multi sport complex loans.

Should Council resolve to implement option Two or Three, whereby significant capital expenditure is required, this would by necessity need to be funded by way of loan. Based on the current financial markets it is envisaged that this would attract an interest rate of around 6%. It would be prudent at that time to recommend a structured debt repayment regime to repay the debt, say over 10 years.

Impact of the LTCCP

The issue of a coal fired boiler used to heat the Mataura Pool was raised in the 2009-19 LTCCP as a future issue. In light of these latest developments, consideration should now be given to the future heating of the Mataura Pool with a more environmentally friendly system.

Quote from page 62 of the LTCCP 2009-19

Climate Change

The Mataura Swimming Pool burns lignite as its means by which to heat water. Burning of fossil fuels has an adverse impact on the atmosphere increasing co2 emissions which works against the nation's obligations to the Kyoto treaty.

The consumption of lignite is expected to incur an annual charge of \$9230.00 based upon a carbon tax rate of \$25 per tonne under the Government's Emission Trading Scheme. The Council has no firm intention to change the fuel source of heating at the Mataura swimming pool, but in recognition of the impact of burning lignite has on the atmosphere, in the parks and reserves activity a commitment is being made to increase the number of trees planted on reserves and in streets from 2010.

Community Views

There will be obvious negativity towards this situation from the public of Mataura. Unfortunately this issue cannot be fixed quickly. However this event may be a catalyst to start discussion on a sustainable solution for the provision for aquatic services in Mataura.

RECOMMENDATION:

THAT the report be received,

AND THAT the Council approve the purchase of a coal fired boiler in order to have the Mataura Pool operating as soon as possible, and note that this acquisition will be funded by loan,

OR

THAT the Mataura Pool be temporarily closed for this season in order to investigate a sustainable operating system for the long term future of the pool.