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Self Insurance Review

1. Background

The Utility Services Committee considered report 95.173 on the subject of earthquake insurance in May 1995. As a result, it was decided to self-insure the Stuart Macaskill Lakes and the pipelines. The various tunnels were subsequently included in the self-insured asset list. At the time, insurance premiums were rapidly escalating and this was the main reason for setting up an insurance reserve by transferring $0.5M a year, being about equivalent to the annual insurance premium.

In 1995, the self-insured assets (excluding the tunnels) were valued at $97M. The maximum expected damage from a Wellington fault event, as assessed by Opus Consultants, was $8.7M for pipelines and $7.6M for the storage lakes, giving a total of $16.3M. These are the 90% confidence figures for a Wellington fault movement event.

2. Insurance Review : Self Insurance

As a prelude to reviewing the insurance cover (both insured and self-insured), a number of reports were commissioned.

Sinclair Knight Merz (SKM) reviewed the possible damage to the Stuart Macaskill Lakes due to a movement on the Wellington fault. Fault rupture is known to occur every few hundred years. Even on a worldwide basis, events of the Wellington fault type movement are rare in developed countries, hence the information on which assessments are based for the amount of damage to lake type structures is very limited. The damage estimates by SKM in June 2002 dollars are:

Wellington Fault Rupture : Stuart Macaskill Lake Damage	
Low Estimate	***High Estimate***
$3.1M	$11.6M

A similar review was carried out by Opus Consultants for the water pipelines and tunnels. Opus expressed their results in a slightly different way to SKM, preferring to state a median position and a 90 percentile loss. The 90 percentile loss (i.e. 10% probability of being exceeded) is often used for assessing earthquake insurance requirements.

Wellington Fault Rupture Event : Pipeline and Tunnel Damage		
	Median	***90 Percentile***
Pipe and tunnel repairs	$9.5M	$13.8M
Management of repairs	$1.4M	$2.1M
Post earthquake inflation	$1.6M	$2.4M
Total	**$12.5M**	**$18.3M**

Using the two reports, the maximum expenditure that should be allowed for following the earthquake is $29.9M, say $30M. Even allowing for the tunnels that were not previously included, this is nearly double the 1995 figure. The assets have been revalued since 1995. If the assets were insured with an insurance company, this is the damage amount they would probably use to set up the annual premium.

At present, \$0.5M a year is set aside each year to build up a fund to provide for the \$30M of repair work, as at 1 July 2002, the fund was \$4.31M.

Previously, there had been scepticism within Greater Wellington that Central Government would implement its policy and fund 60 percent of the infrastructure costs following a major disaster. A recent presentation by the administrators of the Local Authority Protection Programme (LAPP) indicated that the 40 members of the fund are relying on the Government paying out if the need arose.

The difficulty with a Wellington fault event is the magnitude of the cost of repairing the damage, and the disruption to the New Zealand economy. While the Government may wish to assist with repairs to the local authority infrastructure in this area, it may not be in a financial position to do so. As a contingency then, it is suggested that the insurance reserve target is two thirds of the predicted loss. If the Government contributes, then all the costs are covered. If the Government does not contribute, then one third of the damage cost, i.e. \$10M, has to be funded by future generations, namely the ratepayers and water users in the four cities.

On this basis, the amount Greater Wellington Water needs to provide in a reserve is 2/3 of \$30M = \$20M. This sum though increases each year with inflation.

2.1 Self Insurance Reserve Contribution

The amount of \$0.5M set aside each year has not been changed since the fund was set up eight years ago. An attached spreadsheet shows that at the present rate, the fund will not reach the inflation adjusted \$20M until 2024, assuming the \$20M target is accepted. This is well outside the 10-15 years proposed when the fund was set up. Increasing the amount to \$0.75M a year will achieve the target amount by 2019, or 16 years from now. An earlier date would be preferable to reduce the financial exposure but this may not be possible without increasing wholesale water charges. Transferring the \$0.6M chemical reserve, which is no longer needed, to the insurance reserve reduces the date by one year to 2018.

When the fund was set up, the insurance premium governed how much the annual contribution to the reserve should be. As a check, the insurance industry has been asked to provide premium quotations using the two reports mentioned above for the lakes/tunnels and pipeline damage. Quotations are expected shortly.

3. Insurance Review : Insured Assets

As noted above, the insurance premiums for the insured assets have substantially increased since 2001. This raises the issue of whether or not Greater Wellington Water should self-insure all its assets? To assist in answering this question, SKM was commissioned to prepare a report on the possible damage to the remaining assets (this includes water treatment plants, pumping stations, reservoirs and similar structures). Their assessment was a maximum probable loss of $43M.

A self-insurance fund could be set up to pay for $43M x 2/3 = $29M. The logic for the two thirds multiplier is the same as for the existing self-insured reserve. Adding this to the existing reserve target would create the need for a reserve of $49M, where as the amount in the reserve as at 1 July 2002 was $4.3M. It is concluded that the financial exposure is too great at this point in time so the insured assets should remain insured.

As the LAPP administrators mentioned in their presentation, the insurance risks to local authority infrastructure assets have not really changed since 11 September 2001. Any increase in terrorism risk is slight. It is proposed that LAPP is asked to provide a proposal for the insured assets so it can be considered alongside the conventional insurance industry's quotations that are normally received in June each year.

4. Recommendations

(i) It is recommended that the amount set aside in the self-insured fund is increased from \$0.5M a year to \$0.75M, and the chemical reserve sum is transferred to the insurance reserve.

(ii) The difference between the target value of the self-insured fund and the actual amount is covered through the purchase of a line of credit, as at present.

(iii) The water treatment plants and other assets remain insured external to the Council.

(iv) LAPP is invited to provide a proposal for the externally insured Greater Wellington Water assets.

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