Cook Islands National Superannuation Fund

Actuarial Valuation as at 31 December 2012

9 October 2014

This report has been prepared

by Aon New Zealand trading as Aon Hewitt

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Executive Summary

- This is an actuarial investigation report as at 31 December 2012 on the Cook Islands National Superannuation Fund (Fund).

- This report is addressed to the Board of the National Superannuation Fund and the Trustee of the Fund. This is the first time that Aon has performed a review of this Fund.

- There were 7025 active members and 58 pensioners of the Fund as at 31 December 2012.

- The market value of the Fund's assets used for the valuation was $64,250,188.

- The economic assumptions used were:

- Future investment return	5.5% pa
- Allocated rate to members accounts	5% pa
- Discount rate for valuing pensions	5.5% pa

- The demographic assumptions used were based on the experience of recent New Zealand Maori Population mortality.

- Valuation results:

Value of Accrued Benefits	
Members' Accounts	$60,618,862
Pensions' Liabilities	$2,053,190
Total Accrued Benefits (A)	$62,672,052
Value of Assets (B)	$64,250,186
Surplus (B – A)	$1,578,134

Provided the Fund's future experience is broadly consistent with the assumptions set out in Section 4 of this report and the Trustee continues to manage the Declared Rate (the interest rate credited to accounts) then:

- no specific, additional funding in respect of the pensioners is required, and
- the Fund will continue to have an excess of Assets over Accrued Benefits for the following 12 month period.

- Based on the assumptions set out in Section 4 of this report we recommend the following Pension Conversion Rates:

Age	$ Pension rate for each $1,000 of lump sum
55	65
56	66
57	67
58	67
59	68
60	69
61	70
62	71
63	72
64	73
65	74
66	76
67	77
68	78
69	80
70	81
71	83
72	85
73	87
74	89
75	91

- I recommend the Trustee continue to maintain the current Declared Rate policy and keep monitoring that the sum of the Pension, Reserve and Pension Reserve Accounts remains at a level greater than the value of the pensions' liabilities.

- Members who are employed on contract do not have any vested rights in the employers' contributions under the current Trust Deed rules. However, it is market practice to provide a vesting benefit scale on employer contributions. The most common vesting rate is 10% per annum. This would result in a 100% vesting after 10 years of service. Further discussions, analysis of past experience and modelling of future withdrawals are required before any changes are implemented. We will be happy to assist with this exercise.

1. Introduction

The Fund

1.1 The name of the Fund is the Cook Islands National Superannuation Fund.

The Fund had its genesis in the Cook Islands National Superannuation Act (Act) which was passed on 24 November 2000. The Act required the Board of the National Superannuation Fund to prepare a Trust Deed to establish the Fund.

A Trust Deed, with the Public Trust appointed as the first Trustee of the Fund (Trustee), was subsequently executed on 10 September 2001. The Trust Deed notes that the Fund is intended to be a national superannuation scheme such that all employees in the Cook Islands will contribute a part of their salary with an equal contribution from their employer. Fund membership includes employees of Government, state-owned enterprises and companies in the private sector.

Addressee

1.2 This report is addressed to the Board of the National Superannuation Fund and to the Trustee of the Fund.

Purpose

1.3 This actuarial review of the Fund was done at the request of the Board of the National Superannuation Fund and the Trustee of the Fund. This review was conducted as at 31 December 2012.

Statement Regarding Conflicts of Interest

1.4 The actuary responsible for the preparation of this report is Mr Marcelo Lardies who is a Fellow of the New Zealand Society of Actuaries.

I work as an actuary for Aon New Zealand (Aon). Aon also acts as Administration Manager and Investment Advisor to the Fund. This relationship does not in my opinion constitute a conflict of interest and it has not inhibited my ability to review the financial position of the Fund in the impartial manner required by my professional code of conduct and the actuarial standard referred to below.

Trust Deed, Benefits and Contributions

1.5 The Fund is governed by a trust deed dated 10 September 2001. A summary of the provisions relating to benefits and contributions is given in Appendix A.

Previous Actuarial Investigation

1.6 The previous valuation report was prepared by Melville Jessup Weaver Consulting Actuaries as at 31 December 2010. That examination commented on the basis for a crediting rate, recommended a crediting rate for the year ended 31 December 2010, suggested the amounts that could be directed into the Pension Reserve account and calculated pension conversion rates for members of the Fund. The recommendations of that examination were not implemented.

Management, Operation and Documentation of the Fund

1.7 I have not, in the course of this investigation or at any other time, become aware of any problems relating to the prudential management of the Fund's investments or any problems of the Fund in relation to any act or regulation and I am not aware of any problem that may affect the financial position of the Fund.

Certification

1.8 This report was prepared using the Professional Standard Number 2 – Actuarial Reporting for Superannuation Funds – issued by the New Zealand Society of Actuaries as guidance. The valuation method and the financial, economic and demographic assumptions have been determined in accordance with the professional judgement of the actuary preparing this report.

Marcelo Lardies
Fellow of the New Zealand Society of Actuaries

9 October 2014

2. Summary of Results and Recommendations

Valuation Results

2.1 The results of my review as at 31 December 2012 are shown below. To value pensioners' mortality I have used the 2010-12 New Zealand Life Tables for Maori Population. Mortality rates in the previous actuarial investigation were based on the 2005-07 New Zealand Life Tables. Other than this change, I have used the same assumptions as the previous actuarial investigation to value the pensioners' benefits.

Under the valuation assumptions, the Fund has a small excess of assets over liabilities.

Value of Accrued Benefits	**2012**
Members' Accounts	$60,618,862
Pensioners' Liabilities	$2,053,190
Total Accrued Benefits (A)	$62,672,052
Value of Assets (B)	$64,250,186
Surplus (B – A)	$1,578,134

I calculated the Pensioners' Liabilities of $2,053,190 as the present value of the expected future pension payments to existing pensioners and their spouses (if applicable) using the Data (section 3) and the Valuation Process and Assumptions (section 4).

Provided the Fund's future experience is broadly consistent with the assumptions set out in Section 4 of this report and the Trustee continues to manage the Declared Rate (the interest rate credited to members' accounts) so that the sum of the Pension, Reserve and Pension Reserve Accounts exceed the value of the pensioner liabilities then:

- no specific, additional funding is required in respect of the pensioners, and
- the Fund will continue to have an excess of assets over liabilities over the following 12 months period.

The margin of the Pension Accounts plus the Pension Reserve Account over the pensioner liabilities is 103%. I do not anticipate any additional funding requirements other than the investment income allocation policy in use over the following 12 months period.

Funded Status

2.2 The funding level of the Fund as at 31 December 2012 is approximately 103%.

The interest rate adopted for discounting expected pension payments has a prudential margin to allow for uncertainty. For example, a reduction in the discount rate by 0.5% would increase the pensioner liability by $100,000, an impact on the following year's crediting rate of about 0.1%.

Pension Conversion Rates

2.3 Based on the Valuation Process and Assumptions set out in Section 4 of this report we recommend the Trustee to adopt the following Pension Conversion Rates for new pensioners (no change for current pensioners):

	Age	$ Pension rate for each $1,000 of lump sum		
		Recommended	**Current**	**Variance**
	55	65	62	3
	56	66	64	2
	57	67	66	1
	58	67	68	-1
	59	68	70	-2
Normal Retirement Age:	**60**	**69**	**72**	-3
	61	70	73	-3
	62	71	74	-3
	63	72	75	-3
	64	73	76	-3
	65	74	77	-3
	66	76	78	-2
	67	77	80	-3
	68	78	81	-3
	69	80	83	-3
	70	81	84	-3
	71	83	86	-3
	72	85	87	-2
	73	87	89	-2
	74	89	91	-2
	75	91	92	-1

The Normal Retirement Age is 60. However, a member can retire at any time from age 55 in case of ill health or redundancy.

Smoothing of Declared Rates and unfunded benefits risk

2.4 Using the current Declared Rate policy of crediting up to 5.5% to the Pension and Pension Reserve Accounts and transferring 0.5% of the Pension Account to the Pension Reserve

Account, the likely future cash flows in respect of a single male member who takes a pension at age 60 are:

Age	Pension Account Balance (start of year)	Pension Payment	Interest Earned	Pension reserve account transfer	Pension Account Balance (end of year)	Pension Reserve Account (end of year)
60	1,000.00	69.00	53.10	4.83	979.28	4.83
61	979.28	69.00	51.96	4.72	957.51	9.82
62	957.51	69.00	50.77	4.62	934.66	14.97
63	934.66	69.00	49.51	4.50	910.67	20.30
64	910.67	69.00	48.19	4.38	885.48	25.79
65	885.48	69.00	46.80	4.25	859.03	31.47
66	859.03	69.00	45.35	4.12	831.26	37.32
67	831.26	69.00	43.82	3.98	802.09	43.36
68	802.09	69.00	42.22	3.84	771.47	49.58
69	771.47	69.00	40.53	3.68	739.32	55.99
70	739.32	69.00	38.77	3.52	705.56	62.59
71	705.56	69.00	36.91	3.36	670.12	69.39
72	670.12	69.00	34.96	3.18	632.90	76.39
73	632.90	69.00	32.91	2.99	593.82	83.58
74	593.82	69.00	30.76	2.80	552.78	90.97
75	552.78	69.00	28.51	2.59	509.70	98.57
76	509.70	69.00	26.14	2.38	464.46	106.37
77	464.46	69.00	23.65	2.15	416.96	114.37
78	416.96	69.00	21.04	1.91	367.08	122.57
79	367.08	69.00	18.29	1.66	314.71	130.97
80	314.71	69.00	15.41	1.40	259.72	139.58
81	259.72	69.00	12.39	1.13	201.98	148.38
82	201.98	69.00	9.21	0.84	141.35	157.38
83	141.35	69.00	5.88	0.53	77.70	166.57
84	77.70	69.00	2.38	0.22	10.86	175.95
85	10.86	69.00	0.00	0.00	-58.14	127.48
86	0.00	69.00	0.00	0.00	0.00	65.49
87	0.00	69.00	0.00	0.00	0.00	0.09
88	0.00	69.00	0.00	0.00	0.00	-68.90

Both Pension Account and Pension Reserve Account will be depleted once the pensioner turns 88.

This is an acceptable risk and I recommend the Trustee continue to maintain the current Declared Rate policy and keep monitoring that the sum of the Pension, Reserve and Pension Reserve Accounts remains at a level greater than the value of the pensions' liabilities.

Vesting Benefits for Contract Workers

2.5 Members who are employed on contract are entitled to receive their members' account balance but not their employers' account balances on termination of their contract. The resulting forgone benefits were a significant source of funding to the Reserve Account in the last two financial years: $89,000 (2011) and $187,000 (2012) approximately.

Members employed on contract do not have any vested rights in the employers' contributions under the current Trust Deed rules. However, it is market practise to provide a vesting benefit scale on employer contributions. The most common vesting rate is 10% per annum. This would result in a 100% vesting after 10 years of service.

Further discussions, analysis of past experience and modelling of future withdrawals are required before any changes are implemented. We will be happy to assist with this exercise.

3. Data for the Actuarial Review

Source of Data

3.1 Data for this actuarial review was provided by the Fund Administrator, Christine Tiangco of Aon.

The data used for this actuarial review comprise copies of the:

- audited accounts for the years ending 31 December 2010, 2011 and 2012,
- Trust Deed, and
- Trustee' Annual Reports for the years ending 31 December 2010, 2011 and 2012.
- Members', Employers', Pension, Reserve and Pension Reserve Accounts balances as at 31 December 2012.

Members',

And the following data in respect of each pensioner:

- name and sex,
- date of birth, and
- annual pension.

Adequacy of the Data

3.2 The membership and financial data supplied was sufficient for the purposes of the investigation, and in my opinion is sufficient and reliable.

Change in Membership

3.3 The change in membership numbers over the intervaluation period is shown below.

	Pensioners	**Other Members**	**Total**
At 31 December 2010	29	6,162	6,191
Entrants	29	1,178	1,207
Exits			
- retirements	-	99	99
- resignation/redundancies	-	182	182
- deaths / disablements	-	34	34
Members at 31 December 2012	58	7,025	7,083

Data Summary

3.4 The membership data is summarised below:

Pensioners

Number	58
Average age	65.6
Total pension payments	$150,409 pa

Active Members

Number	7,025
Total account balances	$60,618,862

4. Valuation Process and Assumptions

Funding Objectives and Method

4.1 The funding objective is to secure pensioners' and other members' benefits arising from past membership. For pensioners this means ensuring that the sum of the Pension, Reserve and Pension Reserve Accounts' balances is sufficient to cover future benefits, after allowing for future investment income.

As sufficient assets have been accumulated in the Pension, Reserve and Pension Reserve Account to secure the benefits in respect of the pensioners, then the Fund will remain fully funded and no future extra funding in respect of the pensioners will be necessary.

Actuarial Assumptions - Liabilities

4.2 The valuation assumptions used are as follows:

- determination of the Declared Rate,
- investment return, and
- rate of mortality of pensioners.

Determination of the Declared Rate

4.3 I have assumed the Trustee will continue to manage the Declared Rate (the interest rate credited to Member, Employer, Voluntary, Pension, Reserve and Pension Reserve Accounts) so that the Pension Accounts and the Pension Reserve Account balances are maintained at a level greater than the value of the pensioners' liabilities.

I have assumed that of the 5.5% future investment return to be earned by the Pension Accounts, 0.5% is transferred to the Pension Reserve Account and the remaining 5% is credited to the Pension Accounts.

Investment Return

I have assumed the Fund will continue to be exempt from tax.

On the basis of the Trustee's benchmark asset allocation and the returns I currently anticipate for each sector in the medium to long term, I expect the Fund to earn, on average, 7.3% pa before expenses.

The investment return is assumed to be net of expenses. A provision of 1.7% pa for administration and investment expenses has been allowed for when setting the investment return assumption. The actual expense rate during the 12 month period to 31 December 2012 was 1.7% pa.

I have taken a prudential margin in the investment return of 0.1% pa to reduce the probability that the pensioners' liabilities will be under estimated.

The investment return I have assumed for the valuation of pensioner liabilities is therefore 5.5% pa, made up as follows.

Best estimate of long term investment return	7.3% pa
Allowance for expenses	1.7% pa
Prudential margin	0.1% pa
Investment return used	5.5% pa

The same return was assumed in the previous actuarial review.

Actuarial Assumptions - Assets

4.4 The assets are valued at net market value at 31 December 2012 as disclosed in the audited financial statements. The audited accounts indicate that there are no contingent liabilities and none have been allowed for. I am not aware of any material risks posed by the assets apart from normal investment risks associated with the various asset classes invested in.

Pensioners' Assumptions

4.5 Pensioners are assumed to experience mortality at the rates in the latest New Zealand Life Tables 2010-12 for Maori Population. The prudential margin in the interest assumption is considered an adequate implicit allowance for expected improving mortality.

The previous valuation used rates from the New Zealand Life Tables 2005-07. The difference in the pensioner liability value resulting from this change in assumption is a decrease of approximately $88,000.

No pension increases have been granted since the Fund commenced and I have not made any allowance for future pension increases.

I have assumed that all pensioners, who were members of the Fund, are married with a spouse who is 10 years younger who will receive a pension for life upon the death of the pensioner.

Appendix A – Summary of Benefits

A.1 Introduction

The Fund operates in the manner of a defined contribution superannuation scheme with member and employer contributions being held separately. The Fund provides either lump sum or pension benefits on retirement. Material provisions relating to benefits applicable to members and operation of the Fund are summarised briefly below.

A.2 Operation of the Fund

Each year the Fund receives member and employer contributions, pays benefits and earns investment income on its assets. Each year the Trustee will determine how much of the investment income is to be credited to the Members' (including Voluntary), Pensioners', Reserve and Pension Reserve Accounts. Some of the investment income may be directed to the Reserve Account so that the Fund can smooth investment fluctuations and some to the Pension Reserve Account so that the any loss resulting from future longer than expected pensioners' life expectancy can be funded in advance.

A.3 Accounts

The Trust Deed provides for members and for pensioners to have their individual accounts and for the Fund to have a Reserve account and a Pension Reserve account. The manner in which monies can pass to and from the Reserve account and the Pension Reserve accounts is set out in concept in the Trust Deed.

A.4 Interest Rate Credited to Accounts

The interest rate (which may be negative) applied to the Members', Pensioners' Reserve and Pension reserve accounts is set by the Trustee each year having regard to the net investment return (or returns) earned on the underlying assets and other aspects that are addressed in the Fund's audited accounts. The rates credited will vary from year to year as the investment performance of the Fund's assets and operating expenses vary.

A.5 Retirement Benefit

On retirement and subject to the provisions of the Trust Deed, the member accounts are transferred to a pension account which is used to pay a pension, determined by reference to the account balance and the rate of pension conversion that the Trustee applies at the time of retirement of the member.

The Normal Retirement Age is 60. However, A member can retire at any time from age 55 in case of ill health or redundancy.

Subject to the balances of the Members' Accounts and the Trust Deed provisions, the member may take this amount as a cash payment, or choose to receive a pension, or a combination of the two.

Upon the death of a pensioner with no spouse, any funds left in the pension account are paid to the estate of the member. Upon the death of a pensioner with a spouse, the spouse will continue to receive a pension payable from the pension account, generally at the same level as was being paid to the pensioner. After the death of the pensioner and spouse, any funds left in the pension account are paid to the estate of the last of them to die. The pension that is payable may be altered by the Trustee, either up or down at such times as the Trustee shall decide.

As the pensions payable to individual pensioners and surviving spouses are made from the balances in the related pension accounts, it its likely the Pension Reserve and the Reserve accounts will be used for funding any shortfall due to longer than expected life expectancy of the pensioners.

A.8 Other Benefits

On withdrawal, resignation or death, the member and employer account balances are paid to the member or the member's legal personal representative. Members who are employed on contractual basis are entitled to receive only their member's account balance on termination of their contract.

Contact information

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