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**NATAL JOINT MUNICIPAL PENSION  
FUND (SUPERANNUATION) (12/8/553/2)  
REPORT ON THE INTERIM ACTUARIAL  
VALUATION AS AT 31 MARCH 2010**

**Prepared by**

**Arthur Els & Associates  
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**15 February 2011**

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**NATAL JOINT MUNICIPAL PENSION FUND (SUPERANNUATION)  
REPORT ON THE INTERIM ACTUARIAL VALUATION AS AT  
31 MARCH 2010**

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## EXECUTIVE SUMMARY

1. We have performed a interim actuarial valuation of the Natal Joint Municipal Pension Fund (Superannuation) (the “Fund”) as at 31 March 2010 (“the valuation date”). A copy of this report need not be submitted to the Financial Services Board. The last statutory actuarial valuation of the Fund was performed as at 31 March 2008 and the report on that valuation was accepted by the Financial Services Board on 4 August 2009. The period from 1 April 2008 to 31 March 2010 is taken as the “valuation period” for purposes of this valuation.
2. At the valuation date (and at the previous statutory valuation date) the Fund covered the following membership:

	31 March 2008		31 March 2010	
	Number	Annual salaries/pension R'000	Number	Annual salaries/pension R'000
Active members	6 229	723 903	5 620	818 082
Pensioners	4 436	132 213	4 886	169 195

\* The above number of pensioners include all suspended and pending pensioners

3. The market value of the Fund’s assets was R 5 092 300 000 at the valuation date.
4. The valuation of the Fund has been performed on two alternative approaches:
  - 4.1 Firstly the “Discounted Cash Flow” (DCF) valuation basis has been used. Under this basis a value is placed on the liabilities of the Fund using long-term “best estimate” assumptions, details of which are given in the main body of the report. A value is placed on the assets of the Fund applying assumptions that are consistent with those used to value the liabilities, based on the expected future investment cash-flow.
  - 4.2 Secondly, a “Discontinuance Method Approach” (“DMA”) basis has been used. Under this basis the assets are taken at full market value and the rate of interest used for valuing the liabilities is based on the yield curve and the yield on inflation-linked stock at the valuation date. Details of the underlying assumptions are given in the main body of the report.
5. Both methods have advantages and disadvantages:
  - 5.1 The value placed on the assets under the DCF method can be quite different from the market value of the assets and thus this method can be seen as giving somewhat artificial results. However, it has the advantage that the results on this basis tend to be stable from valuation to valuation despite volatile investment conditions, because of the long term nature of the assumption made.



- 5.2 The alternative valuation basis gives results that can be volatile from valuation to valuation. However it has the advantage of appearing “realistic” because the assets are taken at market value and the assumptions are based on investment conditions prevailing at the valuation date.
6. The purpose of providing the results of two valuations is to give the Committee an indication of the sensitivity of the valuation results to the assumptions. In this report we have used the results of the DCF valuation, because of its relative stability, in order to determine the Fund’s liabilities. The results of the DMA valuation are shown so that the Committee are aware of the position if the Fund were to be discontinued and the liabilities bought out in the market at the prevailing interest rates.
  7. The DCF valuation is based on “best estimate” assumptions of the likely future experience of the Fund. Details are given in the main body of this report.
  8. The value placed on the assets for purposes of the valuation are:

	DCF Method		DMA Method
	31.03.2008	31.03.2010	31.03.2010
	R'm	R'm	R'm
Assets at market value	4 451,2	5 092,3	5 092,3
Less: Investment Reserve	<u>-</u>	<u>(73,0)</u>	<u>-</u>
Actuarial value of assets	<u>4 451,2</u>	<u>5 019,3</u>	<u>5 092,3</u>

It is noted that, for the DCF valuation at 31 March 2010, an actuarial adjustment of R 73 million was made to the market value of the assets so that assets have been taken at R 5 019 million for this method of valuation.

9. The valuation disclosed that, in respect of the liabilities for service to the valuation date, the overall Fund was 95,9% funded on the DCF method but only 82,2% funded on the DMA method, as follows:

	DCF Method		DMA Method
	31.03.2008	31.03.2010	31.03.2010
	R'm	R'm	R'm
<b><u>Total</u></b>			
Value of assets (Appendix 5)	4 451,2	5 019,3	5 092,3
Value of liabilities (Appendix 6)	(3 708,0)	(4 751,8)	(5 980,1)
Minimum pension increase Reserve	(538,9)	(368,1)	(102,8)
Risk Reserve	<u>(92,5)</u>	<u>(112,7)</u>	<u>(112,7)</u>
<b>Surplus (shortfall)</b>	<u>111,8</u>	<u>(213,3)</u>	<u>(1 103,3)</u>
Funding level	102,6%	95,9%	82,2%



10. From the table on the previous page it is noted that, on the “best-estimate” (DCF) basis, the Fund’s financial position has deteriorated from the previous statutory valuation. This is mainly due to two main factors: investment earnings was 6,6% per annum on the actuarial value of assets which is less than the expected 10% per annum required in the valuation assumptions; and salary increases were 13,0% per annum over the valuation period which is almost double the 6,5% per annum expected in the valuation assumptions.
11. The DMA method of valuation discloses a substantial shortfall of R 1 103,3 million. This indicates what the results would be if the Fund were to buy out its liabilities with an outside financial institution that invests only in risk-free investments. The calculation is based on investment conditions at the valuation date, so that the results can be very volatile from valuation to valuation. Nevertheless the DMA method of valuation quantifies the risks to which the Fund is exposed, as discussed in the main body of the report. For purposes of determining the Fund’s financial condition the results of the DCF method of valuation has been applied.
12. The Fund holds a Memorandum Account in respect of pensioners. The financial position in respect of pensioners and active members was as follows:

	DCF Method		DMA Method
	31.03.2008	31.03.2010	31.03.2010
	R'm	R'm	R'm
<b><u>Memorandum Account (Pensioners)*</u></b>			
Assets	1 958,2	2 224,2	2 256,7
Liabilities	(1 391,1)	(1 819,1)	(2 116,9)
Risk Reserve	<u>(28,1)</u>	<u>(37,0)</u>	<u>(37,0)</u>
<b>Surplus (Shortfall)**</b>	<b><u>538,9</u></b>	<b><u>368,1</u></b>	<b><u>102,8</u></b>
Funding level	138,0%	119,8%	104,8%
<b><u>Members</u></b>			
Balance of assets	2 493,0	2 795,1	2 835,6
Balance of liabilities***	(2 316,8)	(2 932,7)	(3 863,2)
Risk Reserve	<u>(64,4)</u>	<u>(75,7)</u>	<u>(75,7)</u>
<b>Surplus (Shortfall)</b>	<b><u>111,8</u></b>	<b><u>(213,3)</u></b>	<b><u>(1 103,3)</u></b>
Funding level	104,7%	92,9%	72,0%

\* The liabilities for the pensioners include an allowance for the pension increase on 1 July 2010 and for payment of a thirteenth pension cheque in November 2010.

\*\* This amount is retained to provide for minimum pension increases.

\*\*\* Including allowance for death in service pending spouse’s pension reserves.

13. The statutory valuation of the Fund at 31 March 2008 disclosed that the Fund was in a sound financial position. The Committee of Management had previously levied a surcharge on the local authorities due to the shortfall in the Fund. When considering the results of the 31 March 2008 valuation, the Committee felt that the investment markets were too volatile and the future of the Fund too uncertain (following discussions of a possible merger with the



Natal Joint Municipal Pension Fund (Retirement)) to cease the surcharge at that point. The surcharge of 7% of pensionable salaries has therefore been applied towards meeting the shortfall in respect of the liabilities during the valuation period.

14. Due to the reasons given in paragraph 10 above, a deficit arose in the Fund after the last statutory actuarial valuation. It is thus essential that the surcharge continue to be paid to fund the deficit. We expect that payment of the surcharge will be necessary for another 6 years to eliminate the deficit in the Fund.
15. Contributions payable to the Fund at the valuation date, excluding any surcharge, expressed as a percentage of the pensionable salaries, are:

	%
by members	9,25
by local authorities	<u>18,00</u>
Total	<u>27,25</u>

16. The Employers are no longer permitting members to join the Fund, so that it is effectively closed to new members. This means that the average age of members will increase over time which, in turn, means that the required rate of contribution will also increase. Therefore the method used for calculating the required rate of contribution is the "Attained Age" method. The latter method determines a level rate of contribution required to be paid over the remaining service lifetime of the members. Further explanation is given in the main body of the report.
17. Based on the DCF method of valuation, the contribution rate payable at the valuation date was not sufficient to cover the contribution rate required for future service showing a small shortfall of 1,69% of pensionable salaries, as follows:

	<b>31 March 2008</b>	<b>31 March 2010</b>
	%	%
Method of valuation	Attained Age	Attained Age
Contribution rate currently payable	27,25	27,25
Contribution rate required for future service	<u>28,52</u>	<u>28,94</u>
Excess/(Shortfall)	<u>(1,27)</u>	<u>(1,69)</u>

18. The shortfall in contributions amounts to approximately R 13,8 million a year. We do not consider it necessary to adjust the Employers' rate of contribution at this stage. The matter of the shortfall in contributions will be addressed in the next statutory valuation of the Fund as at 31 March 2011.
19. We have reconciled the valuation data with the financial statements and performed a number of reasonableness tests to verify the correctness of the data. The Fund's administrators have undertaken to address the problem areas identified. We have adjusted the data provided, and we are satisfied with the accuracy of the data for purposes of this valuation.



20. The Fund self-insures its risk benefits. The lump sum element of these benefits is relatively small, with the major element comprising of annuity payments. Furthermore the Fund holds a Risk Reserve to cushion it against fluctuations in mortality experience. I am satisfied that the self-reinsurance arrangement is appropriate for the Fund.
21. I am satisfied that the asset composition on the valuation date is appropriate to the nature of the liabilities.
22. At the valuation date:
  - 22.1 The Memorandum Account in respect of pensioners was fully funded;
  - 22.2 There was a deficit in respect of active members, which is being funded by the surcharge of 7% of pensionable salaries. We expect the deficit to be fully funded by 2016; and
  - 22.3 The required contribution rate for future service exceeded the contribution rate payable by 1,69% of pensionable salaries. This will be reviewed at the next statutory actuarial valuation of the Fund as at 31 March 2011 and we recommend that the local authorities continue their current contribution rate until then.

**ARELS (FASSA FIA)**  
**VALUATOR**

In my capacity as valuator to the Natal Joint Municipal Pension Fund (Superannuation) and as an employee of Arthur Els & Associates.

15 February 2011



## **NATAL JOINT MUNICIPAL PENSION FUND (SUPERANNUATION) REPORT ON THE INTERIM ACTUARIAL VALUATION OF THE FUND AS AT 31 MARCH 2010**

### **INTRODUCTION**

1. We have performed a interim actuarial valuation of the Natal Joint Municipal Pension Fund (Superannuation) (the “Fund”) as at 31 March 2010 (“the valuation date”). A copy of this report need not be submitted to the Financial Services Board. The last statutory actuarial valuation of the Fund was performed as at 31 March 2008 and the report on that valuation was accepted by the Financial Services Board on 4 August 2009. The period from 1 April 2008 to 31 March 2010 is taken as the “valuation period” for purposes of this valuation.
2. In this report the purposes of the valuation, the processes involved, the results obtained and the conclusions drawn are explained. The body of the report is a summary of the data, assumptions and results. The appendices, which form part of the report, contain particulars of the data, the reasons for the assumptions and details of the results.
3. The Fund is registered in terms of the Pension Funds Act.

### **PURPOSE OF THE VALUATION**

4. The purpose of the valuation is to investigate the financial soundness of the Fund in terms of the funding objectives laid down by the Actuarial Society of South Africa and as required by the Registrar of Pension Funds.
5. This requires that the following be determined:
  - 5.1 whether the existing assets of the Fund are sufficient to cover the Fund’s accrued liabilities towards its members for service prior to the valuation date, and towards its pensioners;
  - 5.2 whether the future contribution rates are sufficient to meet the future accrual of benefits stipulated in the Regulations of the Fund;
  - 5.3 whether the contingency reserve accounts are appropriately funded; and
  - 5.4 whether the nature of the assets of the Fund is suitable to match the nature of the liabilities of the Fund.
6. At each statutory triennial valuation the reasons for the change in the surplus/shortfall is investigated. No such investigation is done for interim valuations.





## CHANGES SINCE LAST STATUTORY VALUATION

7. The last statutory valuation was performed as at 31 March 2008. The period between this date and the valuation date (31 March 2010) is referred to as the “valuation period”.
8. Since the last statutory valuation, pensions in payment were increased as follows:

1 July 2008	5,74%
1 July 2009	8,64%
1 July 2010	7,20%*

\*The cost of the increase was included in the liabilities for this valuation.

A pro-rata increase is granted if the pension had been in payment for less than 12 months at the preceding 31 March, and no increase is granted if the pension had commenced after 31 March preceding the date of the increase.

9. The Pension Funds Act requires the valuator to investigate the pension increases granted to pensioners every three years. The actual increases granted since retirement must be compared to the increase in the Consumer Price Index (CPI) and any shortfall must be credited to the pensioners as an additional increase if affordable. The last investigation for this Fund was done as at 31 March 2006. In the interim valuation as at 31 March 2009 it was determined that an additional increase of 7,14% is due to pensioners. The actual increase due to a pensioner depends on the date of retirement, for example if the pensioner had been on retirement for at least three years, an increase of 7,14% is payable, backdated to 1 July 2009.
10. In terms of Regulation 37A once-off thirteenth cheque payments are made in November of each year to pensioners if such payments are affordable. Over the valuation period and for a number of years up to the previous valuation date, thirteenth cheque payments have been made by the Committee. The Committee should be aware that this could create an expectation under pensioners that this will always be the case. If this is the intention of the Committee, it should be funded for specifically going forward.
11. The statutory valuation of the Fund at 31 March 2008 disclosed that the Fund was in a sound financial position. The Committee of Management had previously levied a surcharge on the local authorities due to the shortfall in the Fund. When considering the results of the 31 March 2008 valuation, the Committee felt that the investment markets were too volatile and the future of the Fund too uncertain (following discussions of a possible merger with the Natal Joint Municipal Pension Fund (Retirement)) to cease the surcharge at that point. The surcharge of 7% of pensionable salaries has therefore been applied towards meeting the shortfall in respect of the liabilities during the valuation period.



12. Over the valuation period, the Fund earned the following returns on its assets taken at market value and actuarial value respectively:

<b>Year to 31 March</b>	<b>Investment return (MV)</b>	<b>Investment return (AV)</b>
2009	-7,3%	5,5%
<u>2010</u>	<u>24,4%</u>	<u>7,8%</u>
Average per annum	7,4%	6,6%

13. The average salary increases over the valuation period were as follows:

<b>Year to 31 March</b>	<b>Increase</b>
2009	12,2%
<u>2010</u>	<u>13,8%</u>
Average per annum	13,0%

### VALUATION PARTICULARS

14. Particulars were supplied of –
- 14.1 audited financial statements (Appendix 1);
  - 14.2 the assets held by the Fund at the valuation date (Appendix 5);
  - 14.3 the members and pensioners of the Fund at the valuation date (Appendix 2); and
  - 14.4 the conditions governing the payment of benefits in terms of the Regulations of the Fund (Appendix 3).
15. We have reconciled the valuation data with the financial statements and performed a number of reasonableness tests to verify the correctness of the data. Problem areas were resolved with the administrators of the Fund. We are satisfied with the accuracy of the data for purposes of this valuation.

### VALUATION METHOD

#### Service to the valuation date

16. The Fund's liabilities for members' service to the valuation date and for pensioners was calculated on two alternative valuation methods:
- 16.1 The first method is the "Discounted Cash Flow" (DCF) method of valuation that has been used for past valuations of the Fund. This is based on a set of "best estimate" assumptions which are expected to apply over the long-term. The benefits payable by the Fund in future are estimated and these are discounted using the assumed long-term rate of interest, to give the present value of their liabilities for



service to the valuation date. A similar approach is taken for pensions in payment. As regards the Fund's assets, a value is determined by discounting expected future investment cash-flow at the same rate of interest, allowing for expected future growth in dividends and other investment income. In this manner an "actuarial value" is placed on the assets of the Fund.

- 16.2 A second valuation was then performed on an alternative basis, namely the "Discontinuance Method Approach" (DMA). This valuation takes into account investment conditions that are prevailing at the valuation date. The benefits payable by the Fund in the future, including pensions in payment, are estimated and these are discounted using the yield that could be earned on Government Stock at the valuation date. This gives the Fund's liabilities for service to the valuation date. Assets are taken at full market value.
17. Each of the above methods has advantages and disadvantages.
- 17.1 The value placed on the assets under the DCF method can be quite different from the market value of the assets and thus this method can be seen as giving somewhat artificial results. However, it has the advantage that the results on this basis tend to be stable from valuation to valuation despite volatile investment conditions, because of the long-term nature of the assumptions made.
- 17.2 The alternative valuation method gives results that can be volatile from valuation to valuation. However it has the advantage of appearing "realistic" because the assets are taken at market value and the assumptions are based on investment conditions prevailing at the valuation date.
18. The purpose of providing the results of two valuations is to give the Committee an indication of the sensitivity of the valuation results to the assumptions. In this report we have used the results of the DCF valuation, because of its relative stability, in order to determine the Fund's liabilities. The results of the DMA valuation are shown so that the Committee is aware of the position if the Fund were to be discontinued and the liabilities bought out in the market at the prevailing interest rates. The DMA valuation also quantifies the contingency reserves required to cushion the Fund against investment and other risks, as discussed later in this report.
19. We have been provided with information in respect of 856 pensioners whose pensions have been suspended because the Fund has not received proof of existence. These pensions were valued on the assumption that the following proportion of the pensions would again become payable:

<b>Period since payments ceased</b>	<b>Proportion</b>
more than 3 years	nil
between 2 and 3 years	one-sixth
between 1 and 2 years	one-half
less than 1 year	five-sixths



20. We have been provided with details of 360 cases where a spouse and/or children's pension is possibly payable following the death of a member in the service or of a pensioner. The calculated liability of the pensions is R 114,7 million. The Fund is taking steps to trace dependants of the deceased members and pensioners and it is likely that, in a number of cases, no pension will become payable. For the valuation it was decided to include in the liabilities 50% of the calculated value, so that an amount of R 57,3 million has been included in the Members' liabilities. Another R 3,2 million has been included in the Pensioner liabilities. This matter will be monitored at each valuation and the figure of 50% adjusted appropriately. For the last statutory actuarial valuation an amount of R 37,9 million had been included in the Members' liabilities.

### **Future service**

21. The Employers no longer permit new employees to join the Fund, so that it has effectively become a closed fund. This implies that the average age of the membership will increase, which in turn will mean an increase in the required rate of contribution. For the last statutory valuation and for this valuation, the rate of contribution has been determined on the "Attained Age" method. The latter method takes into account the closed nature of the Fund and determines the level rate of contribution that is required over the remaining service lifetime of the members.
22. If the valuation assumptions are realized, this level rate of contribution should remain sufficient despite an increase in the average age of members as reserves are built up when the average age is smaller that offsets the costs when the average age is high. This assumption may not be realised if there are significant unforeseen changes in the membership, for example, if a significant number of members transfer between the Fund and the other Natal Joint funds. The position will be monitored at each valuation.
23. This basis is referred to as the Attained Age Method of Valuation.

### **Risk Reserve**

24. The Fund self-insures its death and disability benefits and bears the longevity risk for its pensioners. It would be prudent to maintain a "Risk Reserve" in order to give some protection against fluctuations in mortality and morbidity experience of the members, and against the longevity risk of pensioners. The Financial Services Board's Circular PF117 sets out a standard for determining such a reserve; based on the formulae set out in Circular PF117 a Risk Reserve totalling R 112,7 million is appropriate for the Fund and we recommend that this Reserve be retained.

## **VALUATION ASSUMPTIONS**

### **Liabilities**

25. At each statutory triennial valuation the Fund's actual experience is compared to the valuation assumptions and where necessary, the assumptions are revised. Such investigations are usually not done at interim valuations. However, based on our experience analysis of the



decrements of the Fund over the past year, the assumptions used in the last statutory valuation still reflects the actual experience of the Fund.

26. For the DCF method of valuation the demographic assumptions used for the last statutory valuation were therefore used to determine the liabilities in the Fund. For each member the actuarial reserve was also compared to the value of the minimum benefit that would become payable at each future date, if the member resigned from the service at that date. Where the latter figure exceeded the actuarial reserve, the difference was added to the liabilities of the Fund.
27. For the DMA method of valuation the assumptions were determined in the light of investment conditions prevailing at the valuation date. Details of the assumptions are given in Appendix 4.

### ASSETS

28. A comparison between the value of the assets and liabilities of the Fund can only be meaningful if the respective values were determined on a consistent basis.
- 28.1 For the DCF method of valuation, the actuarial value of the assets was determined by discounting the expected future investment income from rental, dividends and interest, at the valuation rate of interest used to calculate the liabilities. Allowance was made for future increases in dividends, rentals etc. On this basis the assets are valued at R5 019,3 million (Details are given in Appendix 5).
- 28.2 For the DMA method of valuation, assets were taken at market value.
- 28.3 The value placed on the assets for purposes of the valuation were:

	DCF Method		DMA Method
	31.03.2008	31.03.2010	31.03.2010
	R'm	R'm	R'm
Assets at market value	4 451,2	5 092,3	5 092,3
Less: Investment Reserve	<u>-</u>	<u>(73,0)</u>	<u>-</u>
Actuarial value of assets	<u>4 451,2</u>	<u>5 019,3</u>	<u>5 092,3</u>

- 28.4 It is noted that, for the DCF valuation at 31 March 2009, an actuarial adjustment of R 73 million was made to the market value of the assets so that assets have been taken at R 5 019,3 million for this method of valuation.



## VALUATION RESULTS

### Service to the valuation date

29. The valuation disclosed that, in respect of the liabilities for service to the valuation date, the overall Fund was 95,9% funded on the DCF method but only 82,2% funded on the DMA method, as reflected below:

	DCF Method		DMA Method
	31.03.2008	31.03.2010	31.03.2010
	R'm	R'm	R'm
<b><u>Total</u></b>			
Value of assets (Appendix 5)	4 451,2	5 019,3	5 092,3
Value of liabilities (Appendix 6)	(3 708,0)	(4 751,8)	(5 980,1)
Minimum pension increase Reserve	(538,9)	(368,1)	(102,8)
Risk Reserve	<u>(92,5)</u>	<u>(112,7)</u>	<u>(112,7)</u>
<b>Surplus (shortfall)</b>	<u>111,8</u>	<u>(213,3)</u>	<u>(1 103,3)</u>
Funding level	102,6%	95,9%	82,2%

30. From the table above it is noted that, on the “best-estimate” (DCF) basis, the Fund’s financial position has deteriorated from the previous statutory valuation. This is mainly due to two main factors: investment earnings was 6,6% per annum on the actuarial value of assets which is less than the expected 10% per annum required in the valuation assumptions; and salary increases were 13,0% per annum over the valuation period which is almost double the 6,5% per annum expected in the valuation assumptions.
31. The DMA method of valuation discloses a substantial shortfall of R 1 103,3 million. This is based on investment conditions at the valuation date, so that the results can be very volatile from valuation to valuation. Nevertheless the DMA method of valuation quantifies the risks to which the Fund is exposed. For purposes of determining the Fund’s financial condition the results of the DCF method of valuation has been applied.
32. The Fund holds a Memorandum Account in respect of pensioners. The financial position in respect of pensioners and active members was as reflected on the next page.



	DCF Method		DMA Method
	31.03.2008	31.03.2010	31.03.2010
	R'm	R'm	R'm
<b><u>Memorandum Account (Pensioners)*</u></b>			
Assets	1 958,2	2 224,2	2 256,7
Liabilities	(1 391,1)	(1 819,1)	(2 116,9)
Risk Reserve	<u>(28,1)</u>	<u>(37,0)</u>	<u>(37,0)</u>
<b>Surplus (Shortfall)**</b>	<b><u>538,9</u></b>	<b><u>368,1</u></b>	<b><u>102,8</u></b>
Funding level	138,0%	119,8%	104,8%
<b><u>Members</u></b>			
Balance of assets	2 493,0	2 795,1	2 835,6
Balance of liabilities***	(2 316,8)	(2 932,7)	(3 863,2)
Risk Reserve	<u>(64,4)</u>	<u>(75,7)</u>	<u>(75,7)</u>
<b>Surplus (Shortfall)</b>	<b><u>111,8</u></b>	<b><u>(213,3)</u></b>	<b><u>(1 103,3)</u></b>
Funding level	104,7%	92,9%	72,0%

\* The liabilities for the pensioners include an allowance for the pension increase on 1 July 2010 and for payment of a thirteenth pension cheque in November 2010.

\*\* This amount is retained to provide for minimum pension increases.

\*\*\* Including allowance for death in service pending spouse's pensions.

33. Over the period to 31 March 2010 the Fund earned lower than expected investment returns. The overall effect of these returns together with the minimum prescribed pension increase was that the funding level of the Memorandum Account has reduced from 138,0% at 31 March 2008 to 119,8% at 31 March 2010. The surplus is retained as a contingency reserve to provide for minimum pension increases as prescribed by legislation and incorporated in the Fund's Regulations. The Memorandum Account also shows a surplus on the DMA method of valuation, indicating that this Account will be sufficient to provide for future pension increases if the underlying assets are invested in risk-free investments.
34. The Fund's financial condition in respect of contributory members has deteriorated on the DCF method of valuation from a funding level of 104,7% to 92,9%. The primary reason for this is that the Fund earned lower than expected investment returns and salary increases were greater than expected (see paragraph 31). The effect of the poor investment return was mitigated to a small extent by the surcharge of 7% of pensionable emoluments being paid by the local authorities.
35. The surcharge is currently 7% of pensionable emoluments (R57 million for the year ending 31 March 2010). We expect that the deficit will be funded by an extension of the current surcharge for another 6 years after 2010 (i.e. to 2016).
36. This position will be reviewed at each future valuation to ensure that the Fund returns to a fully funded position.



## Contingency Reserves

37. The DCF method of valuation is based on best-estimate assumptions, including the assumption that the Fund's equity and property investment will yield a higher return than fixed interest stock. If this assumption is not realised then future investment earnings will be lower than expected, leading to a shortfall arising in future years. To reduce this risk the Fund could hold a "Solvency Reserve", determined according to Circular PF117 which was issued by the Financial Services Board in June 2004. In the case of the Fund the Solvency Reserve would amount to R 1 155,3 million, as follows.

	<b>R'million</b>
Liabilities per DMA method	5 980,1
Less: Liabilities per DCF method	(4 751,8)
Investment Reserve	<u>(73,0)</u>
	<u>1 155,3</u>

38. In view of the deficit in the Fund, it is not possible to retain a Solvency Reserve. The Committee should be aware of the risks that this entails, as discussed in paragraph 16.
39. Circular PF117 also gives recognition to the mortality risks to which the Fund is exposed. This arises from pensioners living longer than allowed for in the valuation assumptions, and excessive deaths and disability claims where benefits are not reinsured with an insurer but are paid directly from a Fund. A fund may hold a "Risk Reserve" equivalent to the capital that would be required from an insurance company undertaking the business. In the case of the Fund, the Risk Reserve amounts to R 112,7 million calculated in accordance with paragraph 4.4 of Circular PF117, and we recommend that the Fund retains this reserve, comprising of R 37,0 million in respect of pensioners and R 75,7 million in respect of active members.

## Future Service

40. Contributions payable to the Fund at the valuation date, not including the surcharge, expressed as a percentage of the pensionable salaries, are reflected below:

	%
by members	9,25
by the local authorities	<u>18,00</u>
Total	<u>27,25</u>

41. The total required contribution rate for future service is 28,94% of pensionable salaries. This has been calculated on the DCF basis in order to arrive at a relatively stable long-term rate of contribution, using the Attained Age method of valuation as discussed in paragraph 23 above.
42. Based on the DCF method of valuation, the contribution rate payable at the valuation date was not sufficient to cover the contribution rate required for future service resulting in a small shortfall of 1,69% of pensionable salaries, as reflected on the next page.





	<b>31 March 2008</b>	<b>31 March 2009</b>
	%	%
	Attained Age	Attained Age
Method of valuation		
Contribution rate currently payable	27,25	27,25
Contribution rate required for future service	<u>28,52</u>	<u>28,94</u>
Excess/(Shortfall)	<u>(1,27)</u>	<u>(1,69)</u>

43. The increase in the required contribution rate is mainly due to larger than expected salary increases. The shortfall in contributions amounts to approximately R 13,8 million a year. We do not consider it necessary to adjust the Employers' rate of contribution at this stage as there is a strong possibility that the Fund will be merged with the Natal Joint Municipal Pension Fund (Retirement) in the near future. This fund has some 4 000 active members that will affect the age profile of the merged fund substantially. The matter of the shortfall in contributions will be addressed in the next statutory valuation of the Fund as at 31 March 2011 at which time the outcome of the merger discussions should be known.

## OUTLOOK

### Investments

44. Over the period to 31 March 2010, the Fund earned 7,4% per annum on its assets at market value and 6,6% per annum on its assets taken at actuarial value. This is smaller than the 10% per annum expected on the actuarial basis of valuation.
45. It is expected that the investment return of the Fund's assets will, over a reasonably long period, be greater than that required to meet the increase in liabilities as a result of reasonable salary increases. If it does occur that investment earnings continue to be lower than required to support the increase in liabilities as a result of salary increases, the local authorities might need to be called upon to increase their contributions to the Fund.
46. Increases to pension at the rate of about 75% of inflation a year can be met if the valuation assumptions are realised. Any additional increases must be met from investment returns in excess of those assumed or from surplus or other profits made on the operations of the Memorandum Account.

### Salary increases

47. From the data we note that the average salary increase over the valuation period was 13,0% per annum, which is higher than inflation over that period. This has contributed towards the deficit in the Fund.
48. The Regulations of the Fund have been amended so that the Committee of Management is able to levy a separate surcharge on local authorities which grant excessive salary increases, thereby causing a financial strain on the Fund to the detriment of other stakeholders. This is effective from 1 July 2004. An investigation into the surcharges due in this regard was done as



at 31 March 2006. Another investigation was performed as at 31 March 2009. Annual investigations will be performed in future.

### **New members and transfers**

49. The Fund has effectively been closed to new members, and it is therefore assumed, for the valuation, that no new members will join the Fund. However, at present, members of the three Natal Joint Funds are permitted to transfer between the funds and, this flow of members may affect the rate of contribution required to be paid to the Fund.



## CERTIFICATE

50. I am satisfied that the asset composition on the valuation date is appropriate to the nature of the liabilities.
51. The Fund self-insures its risk benefits. The lump sum element of these benefits is relatively small, with the major element comprising of annuity payments. I am satisfied that the self-reinsurance arrangement is appropriate for the Fund.
52. At the valuation date:
- 52.1 The Memorandum Account in respect of pensioners was fully funded;
- 52.2 There was a deficit in respect of active members, which is being funded by the surcharge of 7% of pensionable salaries. We expect the deficit to be fully funded by 2016; and
- 52.3 The required contribution rate for future service exceeded the contribution rate payable by 1,69% of pensionable salaries. This will be reviewed at the next statutory actuarial valuation of the Fund as at 31 March 2011 and we recommend that the local authorities continue their current contribution rate until then.

**AR ELS (FASSA FIA)**  
**VALUATOR**

In my capacity as valuator to the Natal Joint Municipal Pension Fund (Superannuation) and as an employee of Arthur Els & Associates.

15 February 2011

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## APPENDIX 1

## ACCOUNTS

1.1 The income and expenditure of the Fund during the valuation period were as follows:

	R'000	R'000	R'000
<b>Amount of Fund as at 31 March 2008 (market value)</b>			4 451 207
Adjustments			2 348
<b>Income</b>			<b>1 044 458</b>
Contributions:		538 909	
- Members	145 486		
- Surcharge	110 151		
- Local authorities	283 272		
Transfers in		13 806	
Unclaimed benefits		(1 002)	
Investment returns		492 745	
<b>Expenditure</b>			<b>(640 641)</b>
Lump sum benefits:		(273 571)	
- Disability	-		
- Withdrawal	(85 916)		
- Retirement	(121 014)		
- Retrenchment	(1 162)		
- Death	(24 728)		
- Divorces	(3 756)		
- Transfer to other funds	(36 995)		
Pensions		(303 076)	
Investment managers' fees		(45 147)	
Administration expenses		(19 333)	
Tax		486	
Net adjustment to fair value of assets			234 927
<b>Amount of Fund as at 31 March 2010 (market value)</b>			<b><u>5 092 299</u></b>



## MEMBERSHIP STATISTICS

### A. MEMBERSHIP BUILD-UP

#### 1. Active Members

Members at previous statutory valuation date	6 229
New members and transfers in	206
Exits	
Retirement	(202)
Ill-health	(59)
Death	(156)
Resignation	(260)
Dismissal	(41)
Retrenchment	(1)
Deferred	(2)
Full transfer	(92)
Adjustments	(2)
<b>Members at current valuation date</b>	<b><u>5 620</u></b>

#### 2. Pensioners

	Former members	Spouses	Deferred	Children	Total
Pensioners at previous valuation date	1 912	1 278	116	1 130	4 436
Adjustments and cessations	19	(11)	(12)	28	24
New pensioners	237	213	3	209	662
Deaths	(165)	(65)	(3)	(3)	(236)
<b>Pensioners at current valuation date</b>	<b><u>2 003</u></b>	<b><u>1 415</u></b>	<b><u>104</u></b>	<b><u>1 364</u></b>	<b><u>4 886</u></b>

#### 3. Deferred Pensioners

The above summary includes 104 deferred pensioners (75 males and 29 females). By "deferred" is meant a pensioner whose pension is payable by the employing local authority until the pensioner attains the pension age.



## B. VALUATION DATA : ACTIVE MEMBERS

### 1. Analysis

Age nearest birthday	Number	Annual Pensionable salaries R	Contributions without interest R	Average pensionable service years
<=22	3	372 824	32 680	1.12
23 - 27	66	6 910 653	1 343 955	2.84
28 - 32	339	40 144 802	14 987 588	6.15
33 - 37	783	102 313 707	49 957 126	9.28
38 - 42	970	136 337 217	77 480 701	11.90
43 - 47	979	146 644 150	92 103 351	14.33
48 - 52	966	145 958 330	99 642 850	16.62
53 - 57	761	119 917 136	85 646 221	18.98
58 - 62	579	89 685 138	66 706 754	20.42
63+	174	29 798 321	22 521 600	21.34
<b>Total</b>	<b>5 620</b>	<b>818 082 278</b>	<b>510 422 826</b>	<b>14.80</b>

### 2. Statistics

	Previous Valuation Date	Current Valuation Date
(i) <b>Females</b>		
Number of members	1 875	1 690
Average age (years)	42,7	45,3
Annual pensionable salaries		
total (R'000)	209 221	238 306
average (R )	111 584	141 009
(ii) <b>Males</b>		
Number of members	4 354	3 930
Average age (years)	44,1	47,3
Annual pensionable salaries		
total (R'000)	514 682	579 777
average (R )	118 209	147 526



## C. VALUATION DATA : PENSIONERS

### 1. Summary

	Previous Valuation Date	Current Valuation Date
(iii) <b>Former members</b>		
Number of pensioners	1 912	2 003
Average age (years)	68,0	68,1
Annual pension		
total (R'000)	82 604	106 258
average (R )	43 203	53 049
(iv) <b>Spouses</b>		
Number of pensioners	1 278	1 415
Average age (years)	61,8	63,9
Annual pension		
total (R'000)	35 097	48 492
average (R )	27 462	34 270
(v) <b>Children</b>		
Number of pensioners	1 130	1 364
Average age (years)	18,7	17,9
Annual pension		
total (R'000)	9 417	9 544
average (R )	8 333	6 997
(vi) <b>Deferred pensioners</b>		
Number of pensioners	116	104
Average age (years)	51,3	54,4
Annual pension		
total (R'000)	5 094	4 901
average (R )	43 918	47 124



## 2. Further analysis

Age nearest birthday	Former Members		Spouses	
	Number	Annual pension R	Number	Annual pension R
<28	0	0	12	418 039
28 – 32	0	0	20	696 350
33 – 37	8	262 035	73	3 471 097
38 – 42	15	581 024	97	3 621 889
43 – 47	35	1 678 129	126	4 700 538
48 – 52	60	2 697 960	106	3 549 304
53 – 57	94	5 105 483	126	4 229 145
58 – 62	260	15 766 556	140	4 722 170
63 – 67	456	27 066 083	151	5 004 028
68 – 72	424	22 241 067	140	4 408 313
73 – 77	281	12 689 156	136	3 843 094
78 – 82	213	11 117 332	129	4 350 245
83 – 87	113	5 758 249	89	3 257 651
88 – 92	37	1 164 345	58	1 869 452
93 – 97	5	123 012	12	350 986
>97	2	7 342	0	0
<b>Totals</b>	<b>2 003</b>	<b>106 257 772</b>	<b>1 415</b>	<b>48 492 301</b>

The above summary includes cases where the pension has been ceased pending receipt of evidence of survival, and Pending Pensioners and Spouses.





## D. SUMMARY OF DATA CHECKS

A large number of tests on the reasonability and consistency of the data were carried out, including the following:

- Reconciliation of the number of members at the valuation date and the previous valuation date, with the movements in membership reported over the valuation period.
- Testing for very high, low, nil or negative salary increases of individual members over the valuation period.
- Testing whether the ages and salaries of individual members were within a reasonable range.
- Ensuring that the age and past service of each member did not conflict with the minimum entry age.
- Testing the reasonability of each member's total/accumulated contributions relative to salary and length of service.
- Checking the level of pensions against the pensions at the previous valuation date and increases granted since then.
- Testing the reasonableness of age differences between pensioners and their spouses.
- Checking for changes in the membership details over the valuation period.
- Identifying any missing or invalid data fields.
- We have reconciled the valuation data with the financial statements and performed a number of reasonableness tests to verify the correctness of the data.

Problems with the data supplied were resolved with the administrator of the Fund.

We are satisfied with the general accuracy of the data and with its suitability for purposes of the valuation.



## BENEFITS AND CONDITIONS

3.1 The principal benefits and conditions of the Fund are described below. Special conditions apply to certain classes of members and they were allowed for. Benefits other than those shown may be payable under certain circumstances, but it was not considered appropriate to make direct allowance for them in the valuation.

Member's contributions	9,25% of pensionable salaries
Pension age	65 years
Optional retiring date	The date on which a member attains age 60 years
Final average salaries	Average annual pensionable salaries during the last year of service
Bonus service included in continuous service	One year for twenty completed years of continuous service and one year for every five completed years of continuous service thereafter
Pension on retirement at pension age or at optional retiring date	2,2% of final average salaries per year of continuous service
Lump sum on retirement at pension age or at optional retiring date	8,25% of final average salaries per year of continuous service
Pension on retirement because of ill health (minimum ten years' continuous service)	Pension as for retirement at the pension age (with minimum continuous service equal to one-half of the continuous service that the member would have had at the pension age)
Lump sum on retirement because of ill health (minimum ten years' continuous service)	Lump sum as for retirement at the pension age (with minimum continuous service equal to one-half of the continuous service that the member would have had at the pension age)
Lump sum on retirement because of ill health (less than ten years' continuous service)	Greater of two times member's contributions and resignation benefit
Spouse's pension on death in service	1,2% of final average salaries per year of continuous service that the member would have had at the pension age



Spouse's pension on death of pensioner	1,2% of final average salaries per year of continuous service
Lump sum on death in service	10,75% of final average salaries per year of continuous service (minimum of one-quarter of annual pensionable salaries)
Lump sum on death of pensioner within five years of retirement	25% of the balance of five years' pension payments
Withdrawal	Member's contributions plus 5/12% for each month of continuous service (the addition is approximately equivalent to compound interest at 10% a year) increased by 5% for each complete year of continuous service up to a maximum of 20 years; or if member has completed ten years of continuous service, a deferred pension and lump sum as for retirement at the pension age payable when he attains the pension age.
Prescribed minimum benefits	All benefits are subject to the minimum prescribed by the Pension Funds Act.



## VALUATION ASSUMPTIONS

### 1. General

To assess the financial position of the Fund, an attempt is made as far as possible to reach realistic long-term assumptions. A number of factors are considered, which are inter-related, often to such an extent that individual elements cannot be considered in isolation.

Our valuation basis takes into account the experience of the Fund and that of similar funds.

The actual long-term costs of the benefits depend on the actual experience of the Fund and not on the assumptions adopted. While the assumptions can affect the timing of the emerging cost in the short-term, they have little impact on the long-term cost.

It was decided to value the Fund on two alternative methods of valuation:

- 1.1 The first method is the “Discounted Cash Flow” (DCF) method of valuation that has been used for past valuations of the Fund. This is based on a set of assumptions which are expected to apply over the long-term. The benefits payable by the Fund in future are estimated and these are discounted using the assumed long-term rate of interest, to give the present value of their liabilities for service to the valuation date. A similar approach is taken to pensions in payment. As regards the Fund’s assets, a value is determined by discounting expected future investment cash-flow at the same rate of interest, allowing for expected future growth in dividends and other investment income. In this manner an “actuarial value” is placed on the assets of the Fund.
- 1.2 The valuation was then performed on an alternative basis, namely the “Discontinuance Method Approach” (DMA). This valuation takes account of investment conditions at the valuation date. The benefits payable by the Fund in the future are estimated and these are discounted using the yield on Government Stock at the date of valuation. This gives the liability for service to the valuation date. Assets are taken at full market value.

Our assumptions are set out and motivated below. Assumptions used in the previous statutory valuation are shown in brackets.



## 2. Investment return

### 2.1 DCF Method

The assumed investment return is used as an interest rate to discount expected future cash flows. In estimating the future investment earnings, greater emphasis is placed on the long-term trend as opposed to the short-term experience of the Fund. Taking into account the structure of the Fund's assets we have assumed that the Fund will earn 10% p.a. over the long-term (10% p.a. previously).

Allowing for the Fund's relatively large holdings of equities, it was assumed that:

- 5% of the assets generate cash returns of, say, 6,5% p.a.;
- 25% of the assets are invested in Fixed Interest stock yielding, say, 8,5% p.a.;
- 5% of the assets are invested in property earning 9,5% p.a.;
- 65% of the assets are invested in equities with an equity premium of 3% above the investment return on Fixed Interest stock so that earnings are 11,5% p.a.; and
- Expenses reduce the earnings by, say, 0,5%;

The calculated Expected Return on Assets is approximately 9,9% for the active members. We have accordingly used a long term investment return assumption of 10%.

This interest rate of 10% p.a. is only really significant in relation to the assumed long-term rate of salary inflation of 6,5%, as stated below.

We have therefore assumed that future investment returns will exceed future salary inflation by 3,5% p.a. This is consistent with the previous statutory actuarial valuation.

### 2.2 DMA Method

At the valuation date the yield on government stocks varied from 7% at the short-terms and 8,64% at longer terms. The liabilities of the Fund are predominantly long term and therefore it was decided to apply a rate of interest of 8,56%. An adjustment was made for investment fees of 0,5% a year. For purposes of valuation it was thus assumed that the Fund would earn 8,06% (8,56% less 0,5%) and this was the rate used to place a value on the liabilities of the Fund.



### 3. Inflation

#### 3.1 DCF Method

It was assumed that inflation over the long-term will be 6% a year (6% a year previously), which is in line with the assumed underlying rate of inflation in the market. This implies that the Fund will earn 4% more than inflation (10% less 6%). This is consistent with the previous statutory actuarial valuation.

#### 3.2 DMA Method

At the valuation date the yield on long-term government stock was 8,64% and that on inflation-linked bonds was 3,29%. The difference of 5,35% (8,64% less 3,29%) is the inflation implied by the market at the valuation date. We have therefore assumed an underlying rate of inflation of 5,35% a year for the DMA method of valuation.

### 4. Salary increases

#### 4.1 DCF Method

General salary increases as a result of inflation have been provided for at 6,5% pa (6,5% previously) (i.e. an assumption of inflation plus 0,5% which must be read in conjunction with the assumed rate of investment return).

In addition, we provided for merit increases based on the experience of the Fund. Samples of the increases allowed for are:

Age years	Merit increases per year %
20	7,7
25	2,9
30	1,8
35	0,7
40	0,1
45	-
50	-
55	-
60	-

#### 4.2 DMA Method

Allowance has been made for salaries to be increased in future at 0,5% p.a. above the assumed rate of inflation of 5,35%, i.e. at 5,85% p.a.

In addition, we have allowed for merit and promotion increases according to the table set out in paragraph 4.1 above.



## 5. Pension increases

It has been, and continues to be, the policy of the Committee to increase pensions at the rate of inflation provided this is affordable, based on investment returns in excess of 5,5% a year. The increases are subject to a minimum of 75% and a maximum of 100% of Core inflation.

The post retirement interest rate was set at 5,5%. This rate is expected to allow for pension increases of approximately 75% of inflation.

For the DMA method of valuation the post retirement interest rate was set at 3,91% in order to allow for pension increases of approximately 75% of inflation.

## 6. Mortality

The mortality assumptions used for the last statutory valuation were retained for this valuation.

Examples of the mortality rates used are as follows:

Age	<u>Active members</u>		Age	<u>Pensioners</u>	
	Males %	Females %		Males %	Females %
20	0,2	0,2	60	1,76	0,77
25	0,3	0,2	65	2,73	1,33
30	0,5	0,3	70	4,21	2,27
35	0,7	0,4	75	6,43	3,85
40	1,0	0,5	80	9,71	6,45
45	1,3	0,6	85	14,41	10,62
50	2,0	0,9	90	20,86	17,00
55	3,0	1,3			
60	4,4	1,9			

The pensioner mortality assumption is equal to the PA(90) mortality table, with the age rated down by 1 year and allowing for future mortality improvements of 0,50% per annum from 2007 onwards, with an overall improvement in mortality of 10% after 20 years. The rates reflected in the table above is the PA(90) mortality rates less one year with no improvement.

## 7. Withdrawals

Withdrawals consist mainly of voluntary resignations and resignations to avoid dismissal. No special provision is made for exits such as retrenchments and transfers to other funds, since they are approximately financially neutral towards the Fund.

Allowance was made for the prescribed minimum withdrawal benefits in terms of the Pension Funds Act. The outcome of these minimum benefits is that the Fund no



longer makes material withdrawal profits in respect of members who leave the Fund prior to retirement.

The withdrawal rates for the previous statutory valuation were retained for this valuation.

The withdrawal rates used are set out in the table below:

<b>Age</b>	<b>Males</b> %	<b>Females</b> %
20		
25	20,0	10,0
30	12,0	10,0
35	8,0	9,0
40	5,0	7,0
45	3,0	5,0
50	1,0	3,0
55	-	1,0
60	-	-
65	-	-

#### **8. Retirement due to poor health**

We have allowed for members to retire on account of ill-health prior to attaining the pensionable age. We have retained the assumptions used for the last statutory valuation.

Examples of percentages of ill-health retirements expected at the respective ages are as follows:

<b>Age</b>	<b>Males</b> %	<b>Females</b> %
20		
25	-	-
30	-	-
35	0,1	0,1
40	0,3	0,3
45	0,4	0,4
50	0,5	0,6
55	1,2	1,2
60	2,4	2,1
65	4,4	3,1





## 9. Early retirement

Members are able to retire from age 60 with no reduction in benefits on account of early retirement. Based on the actual experience of the Fund, it was decided to assume that members would retire early as follows:

Age	% of members retiring
To 59	Nil
60	10
61	5
62	5
63	5
64	5
65	100

## 10. Family statistics

We assumed that on average a husband will be 5 years older than his wife. We have also assumed that 100% of the male members and 50% of the female members are married.

## 11. Expenses

Expenses of administration are paid by the Fund and have therefore been included in the required contribution rate. Based on actual costs over the valuation period, we have allowed for expenses of 1,25% of pensionable salaries.

In the case of current pensioners an allowance was made for expenses incurred in the payment of pensions, in both the DCF valuation and the DMA valuation. We have allowed for expenses to be incurred in the payment of pensions, at R 350 per pensioner per annum, increasing in future at the same rate as the pensions. This is the level of expense that would apply if pensions were paid by an outside administrator.

## 12. Insured benefits

The death and disability benefits are not insured. The costs will vary in the future as the age and gender distribution of the members changes and AIDS and other factors affect the underlying rates.

## 13. Prescribed minimum benefits

For each member the actuarial reserve was compared to the value of the minimum benefit that would become payable at each future date, if the member resigned from the service at that date. Where the latter figure exceeded the actuarial reserve, the difference was added to the liabilities of the Fund.



For calculating the value of the Prescribed Minimum Benefit the following assumptions were applied:

- 13.1 The deferred pension and gratuity was based on service accrued to the valuation date.
- 13.2 Long term Earnings Yield assumption of 3%.
- 13.3 The pension will be payable from the member's normal retirement age.
- 13.4 No decrements are applied in placing a value on the deferred pension, until retirement at the normal retirement age.
- 13.5 Post-retirement mortality and allowance for pension increases after retirement are set out in paragraphs 5 and 6 above.



## VALUATION OF ASSETS

### A. ASSET COMPOSITION

The total market value of the assets was R 5 092 300 000, comprised as follows:

	R'000	% of assets
Equities	2 440 041	47,92%
Interest bearing stock	1 066 568	20,94%
Cash and deposits	843 225	16,56%
Fixed assets	1 110	0,02%
International assets	822 568	16,15%
Net current assets	<u>(81 212)</u>	<u>(1,59%)</u>
<b>Total at 31 March 2010</b>	<u><b>5 092 300</b></u>	<u><b>100,00%</b></u>

### B. ASSET VALUATION BASIS – DCF METHOD OF VALUATION

- For the DCF method of valuation, it is necessary to discount expected future income and expenditure on a consistent basis. In the case of the valuation of the assets, this applies to expected receipts from investments, namely interest, rent, dividends and maturity payments.
- We valued the assets by calculating the discounted value of the expected cash flow, based on the valuation rate of interest of 10% p.a.
- The dividend yield on the ALSI was approximately 2% at the valuation date. This is historically low because of the recession, but is expected to increase over the longer term. We have accordingly assumed a dividend growth rate of inflation plus 2%, i.e. at 8% per annum. If taken together with the assumed investment return of 10% per annum this means that we assume a dividend yield of 2% per annum. This means that the equities have effectively been valued at market value.  
International assets were valued similarly to local assets invested in equities.  
Fixed assets was valued at market value.  
Cash and net current assets were taken at face value.
- It was assumed that the mix of investments in other funds was similar to the mix in the balance of the Fund.
- The actuarial value of the assets amounted to R5 019,3 million at the valuation date, which was equal to 98,6% of market value.



## APPENDIX 6

## VALUATION OF LIABILITIES

## A. TOTAL OF LIABILITIES

## Service to the valuation date

- 6.1 The value of the liabilities of the Fund for the service of members and former members to the valuation date was R 4 751 856, as follows:

	DCF Method		DMA Method
	31 March 2008	31 March 2010	31 March 2010
	R'000	R'000	R'000
Members	2 278 913	2 875 348	3 793 031
Pending widow/ers	37 978	57 335	70 189
Pensioners	909 976	1 161 165	1 345 266
Spouses	315 138	432 088	509 036
Children	21 686	28 098	29 673
Deferred	27 952	31 726	41 959
Suspended Reserve	23 319	25 489	29 344
Increase in pensions*	69 696	113 583	132 269
13 <sup>th</sup> cheque November	10 495	13 358	13 358
Administration costs	<u>12 816</u>	<u>13 666</u>	<u>15 921</u>
<b>Past-service liabilities</b>	<b><u>3 707 969</u></b>	<b><u>4 751 856</u></b>	<b><u>5 980 046</u></b>

\* From 1 July of year of valuation, pro-rata for pensions in payment for less than a year at the valuation date.

## Future service

- 6.2 The “Attained Age” method of valuation was used which allows for the fact that the Fund is closed to new members, as explained in the main body of the report.
- 6.3 The contributions (expressed as a percentage of pensionable salaries) required for future service were as follows:

	%
Benefits for future service	27,69
Administration expenses	<u>1,25</u>
	<u>28,94</u>



## B. DETAILS OF LIABILITIES AT 31.3.2008

### Service to the valuation date

6.4 The components of the liabilities in respect of past service are:

	DCF Method R'000	DMA Method R'000
<b>Active members</b>		
Benefits on :		
retirement	1 365 617	1 841 162
death	672 909	872 799
ill-health	601 094	789 703
withdrawal	124 836	133 389
Past bonus service	86 111	108 620
Minimum benefits	<u>24 781</u>	<u>47 358</u>
	2 875 348	3 793 031
Pending spouse's pensions	<u>57 335</u>	<u>70 189</u>
<b>Sub-total (members)</b>	<b><u>2 932 683</u></b>	<b><u>3 863 220</u></b>
<b>Pensioners</b>		
Formerly active members	1 161 165	1 345 266
Spouses	432 088	509 036
Children	28 098	29 673
Suspended Reserve	25 489	41 959
Deferred pensioners	31 726	29 344
Pension increase 1 July 2010	113 583	132 269
13 <sup>th</sup> pension cheque Nov' 10	13 358	13 358
Administration cost	<u>13 666</u>	<u>15 921</u>
<b>Sub-total (pensioners)</b>	<b><u>1 819 173</u></b>	<b><u>2 116 826</u></b>
<b>Total liabilities</b>	<b><u>4 751 856</u></b>	<b><u>5 980 046</u></b>

### Future service

6.5 Expressed as a contribution rate, and allowing for the fact that the Fund is closed to new members, the future service liability is as follows:

	% of pensionable salaries
Retirement	12,82
Disability	5,00
Death in service	6,56
Withdrawal	1,53
Future bonus service	1,78
Administration costs	<u>1,25</u>
Total	28,94
Current contributions by members	<u>(9,25)</u>
<b>Required employer contribution rate</b>	<b><u>19,69</u></b>



**LIABILITIES FOR MEMBERS FOR SERVICE TO VALUATION DATE**

<b>Age nearest birthday</b>	<b>Number</b>	<b>Annual Pensionable salaries R'000</b>	<b>Liabilities</b>
<b>Females</b>			
<=22	0	0	0
23 - 27	20	2 158	751
28 - 32	134	17 385	11 754
33 - 37	266	37 383	46 826
38 - 42	291	40 169	68 649
43 - 47	278	40 431	98 294
48 - 52	300	43 598	146 088
53 - 57	198	28 466	116 171
58 - 62	152	21 215	109 046
63+	<u>51</u>	<u>7 500</u>	<u>44 884</u>
<b>Total</b>	<b><u>1 690</u></b>	<b><u>238 306</u></b>	<b><u>642 462</u></b>
<b>Males</b>			
<=22	3	373	45
23 - 27	46	4 753	1 479
28 - 32	205	22 760	20 308
33 - 37	517	64 931	96 404
38 - 42	679	96 168	221 936
43 - 47	701	106 213	342 672
48 - 52	666	102 360	433 323
53 - 57	563	91 451	501 702
58 - 62	427	68 470	447 695
63+	<u>123</u>	<u>22 299</u>	<u>167 321</u>
<b>Total</b>	<b><u>3 930</u></b>	<b><u>579 777</u></b>	<b><u>2 232 886</u></b>
<b>Grand total</b>	<b><u>5 620</u></b>	<b><u>818 082</u></b>	<b><u>2 875 348</u></b>



### LIABILITIES FOR PENSIONERS

Age nearest birthday	Number of Pensioners	Annual Pension R'000	Liabilities R'000
<b>Females</b>			
< 22	0	0	0
23 - 27	0	0	0
28 - 32	0	0	0
33 - 37	3	70	1 209
38 - 42	4	179	2 989
43 - 47	10	386	6 279
48 - 52	10	342	5 342
53 - 57	23	919	13 403
58 - 62	76	3 301	44 217
63+	<u>485</u>	<u>16 019</u>	<u>159 080</u>
<b>Total</b>	<b><u>611</u></b>	<b><u>21 217</u></b>	<b><u>232 519</u></b>
<b>Males</b>			
< 22	0	0	0
23 - 27	0	0	0
28 - 32	0	0	0
33 - 37	5	192	3 237
38 - 42	10	370	6 189
43 - 47	22	1 219	19 924
48 - 52	46	2 226	34 818
53 - 57	68	4 092	59 174
58 - 62	174	12 077	159 369
63+	<u>968</u>	<u>62 882</u>	<u>645 935</u>
<b>Total</b>	<b><u>1 293</u></b>	<b><u>83 058</u></b>	<b><u>928 646</u></b>
<b>Grand total</b>	<b><u>1 904</u></b>	<b><u>104 275</u></b>	<b><u>1 161 165</u></b>

The above summary excludes cases where pension payments have been ceased, and also excludes the value of the lump sum payable on the death of a pensioner who dies within five years of retirement.



### LIABILITIES FOR DEFERRED PENSIONERS

Age nearest birthday	Number of Deferreds	Annual Pension R'000	Liabilities R'000
<b>Females</b>			
< 22	0	0	0
23 - 27	0	0	0
28 - 32	0	0	0
33 - 37	0	0	0
38 - 42	6	127	391
43 - 47	9	217	816
48 - 52	7	261	1 368
53 - 57	2	68	459
58 - 62	4	111	1 100
63+	<u>1</u>	<u>29</u>	<u>300</u>
<b>Total</b>	<b><u>29</u></b>	<b><u>813</u></b>	<b><u>4 434</u></b>
<b>Males</b>			
< 22	0	0	0
23 - 27	0	0	0
28 - 32	1	9	13
33 - 37	2	55	120
38 - 42	4	119	328
43 - 47	5	190	599
48 - 52	16	771	3 555
53 - 57	16	967	5 769
58 - 62	25	1 756	14 458
63+	<u>6</u>	<u>222</u>	<u>2 451</u>
<b>Total</b>	<b><u>75</u></b>	<b><u>4 088</u></b>	<b><u>27 292</u></b>
<b>Grand total</b>	<b><u>104</u></b>	<b><u>4 901</u></b>	<b><u>31 726</u></b>

The above summary excludes cases where pension payments have been ceased.





## APPENDIX 6D

## LIABILITIES FOR SPOUSES

Age nearest birthday	Number of Spouses	Annual Pension R'000	Liabilities R'000
<b>Females</b>			
< 22	0	0	0
23 - 27	3	98	1 722
28 - 32	18	673	11 624
33 - 37	34	1 391	23 485
38 - 42	45	1 681	27 525
43 - 47	71	3 000	47 082
48 - 52	74	2 544	37 808
53 - 57	94	3 049	42 477
58 - 62	114	3 862	49 700
63+	<u>615</u>	<u>21 351</u>	<u>174 813</u>
<b>Total</b>	<b><u>1 068</u></b>	<b><u>37 650</u></b>	<b><u>416 236</u></b>
<b>Males</b>			
< 22	0	0	0
23 - 27	0	0	0
28 - 32	0	0	0
33 - 37	3	306	4 919
38 - 42	3	143	2 212
43 - 47	7	241	3 512
48 - 52	4	104	1 422
53 - 57	1	23	268
58 - 62	3	63	678
63+	<u>17</u>	<u>391</u>	<u>2 840</u>
<b>Total</b>	<b><u>38</u></b>	<b><u>1 270</u></b>	<b><u>15 852</u></b>
<b>Grand total</b>	<b><u>1 106</u></b>	<b><u>38 920</u></b>	<b><u>432 088</u></b>

The above summary excludes Pending pensions and cases where pension payments have been ceased.



## LIMITATIONS TO USE OF REPORT

This report has been prepared for the Committee of Management of the Natal Joint Municipal Pension Fund (Superannuation). Its contents and conclusions should not be used by any other party, as the purpose for which this report has been prepared may not be appropriate for other uses.

A third party who wishes to use the information, conclusions, recommendations or any other aspects of this report should contact the Committee of Management of the Natal Joint Municipal Pension Fund (Superannuation) who will in turn obtain written comment from Arthur Els & Associates on whether this report is appropriate for the intended use.

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2024

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