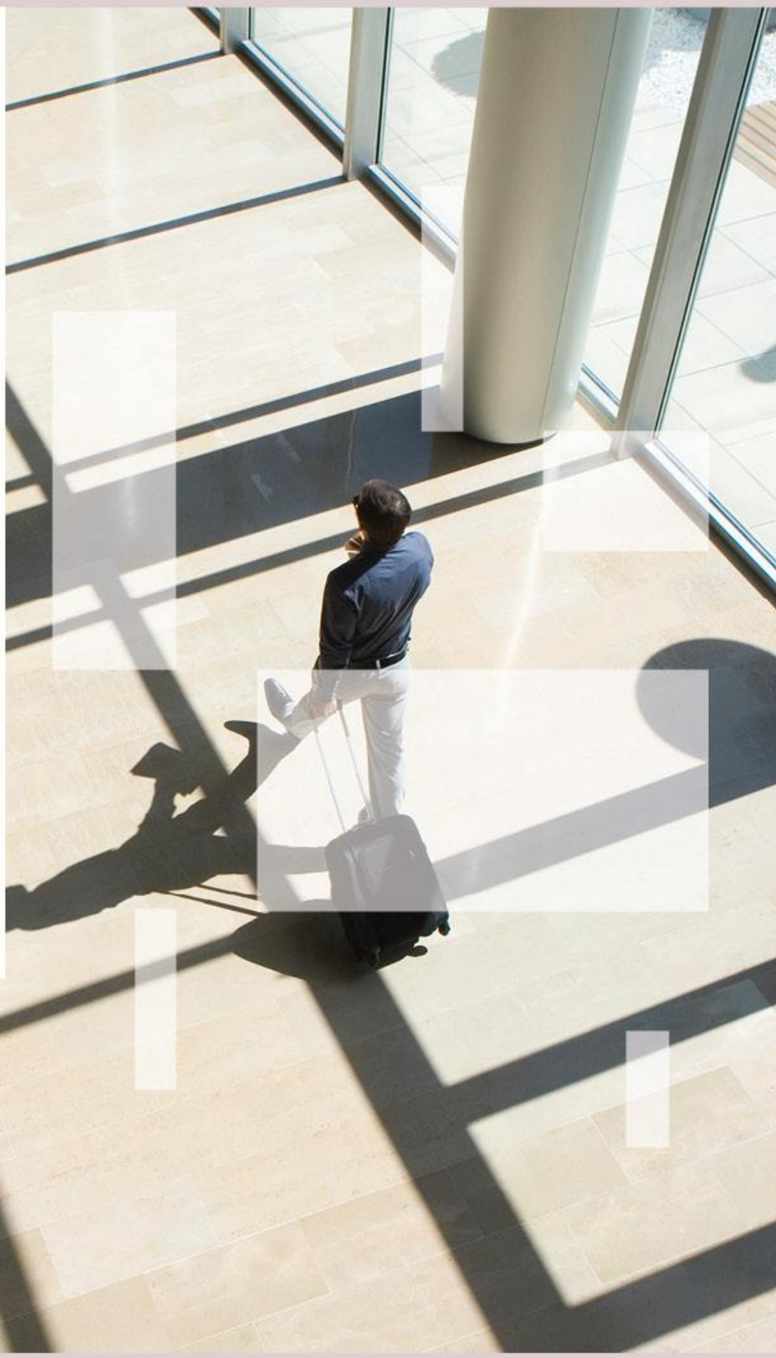
Maritime Super

Actuarial Investigation Summary Report – 2018

21 December 2018




Towers Watson Australia Pty Ltd
ABN 45 002 415 349 AFSL 229921

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Section 1: Executive Summary

1.1 We are pleased to present our summary report to the Trustee of Maritime Super ("the Fund") in respect of the actuarial investigations carried out of the defined benefit liabilities of the Fund as at 30 June 2018. The previous investigations in respect of the Fund were conducted as at 31 December 2016 in respect of Section E, and 30 June 2016 for all other Sections of Maritime Super.

1.2 Five separate investigation reports have been prepared in respect of the defined benefit liabilities for each of the following Sections of Maritime Super:

- DB Contributing and DB Non-Contributing Members of Section A;
- Section B;
- Section C;
- Section E; and
- Section F.

1.3 The periods from the previous investigation date to the current investigation date, 30 June 2018, are referred to as the "investigation period". The investigation period is 1.5 years for Section E and 2 years for all other Sections.

1.4 In this report a reference to a particular Section is a reference to the assets attributable to defined benefit liabilities for each separate Section of the Fund.

1.5 The purpose of this report is to provide a summary of the key information and recommendations set out in these reports for the benefit of the Trustee. As such this summary report does not comply with the relevant Professional Standards issued by the Actuaries Institute and does not meet the requirements of a report prepared for the purposes of APRA Prudential Standard SPS 160. We confirm, however, that the separate valuation reports have been prepared in accordance with these requirements.

Membership

1.6 A breakdown of defined benefit members between each Section is set out in Section 3 of this report.

Assets

1.7 A breakdown of the Fund's Defined Benefit assets between Sections is set out in Section 5 of this report.

Investments

1.8 The assets held in respect of members' accumulation benefits, including Section B members with a defined benefit guarantee, are invested in the investment option chosen by these members.

1.9 The assets held in respect of defined benefits are currently invested according to the selected investment strategy of each Section.

1.10 We consider that the investment objectives and strategies adopted by the Trustee continue to be appropriate for each Section given the size and with the benefit design of these Sections. In reaching this conclusion we have noted that in the first instance the Employer assumes responsibility for making up any funding shortfall.

Financial Position as at 30 June 2018

1.11 The Vested Benefit Index of the Fund as a whole was 109.7% as at 30 June 2018. The Fund was therefore not in an unsatisfactory position as at 30 June 2018 overall.

1.12 The financial position of each Section as at 30 June 2018 with respect to defined benefit liabilities is shown in the table below:

Section	Vested Benefit Index	Accrued Benefit Index
DB Contributing and DB Non-Contributing Members of Section A	110.6%	120.9%
Section B	108.7%	108.5%
Section C	109.2%	108.9%
Section E	115.5%	118.0%
Section F	122.1%	110.1%
Total Defined Benefits	**109.7%**	**110.2%**

1.13 None of the Sections were in an unsatisfactory financial position as at 30 June 2018 (i.e. the Vested Benefit Index was greater than or equal to 100%).

1.14 The Accrued Benefit Index at 30 June 2018 was greater than 100% for all Sections, meaning that the value of assets was in excess of that expected to be required to finance benefits accrued to date, on the basis of the selected actuarial assumptions.

1.15 We have also determined that all Sections were not technically insolvent as at 30 June 2018 i.e. in no cases were the assets of the Section less than the total of Minimum Requisite Benefits for the Section.

Summary of Findings

1.16 The results of the actuarial assessment of each of the Sections are set out in the separate actuarial reports. A summary of the results for each Section is set out below.

DB Contributing and DB Non-Contributing Members of Section A

1.17 The actuarial investigation of the DB Contributing and DB Non-Contributing Members of Section A as at 30 June 2018 shows that the Division was not in an unsatisfactory financial position. This was demonstrated by a Vested Benefits Index of 110.6%.

1.18 In addition the Section had an actuarial surplus of $2.5 million in respect of the long-term funding position and $7.7 million in respect of benefits accrued to the valuation date.

1.19 The financial position of the Section improved over the period since the last investigation with the main factor influencing that result being a higher assumed long-term real rate of return of 7.6% compared to 2.9% assumed previously.

1.20 However we recommend that Employer contributions for Permanent Members continue at a rate of 12.6% of Classification Base Wage (CBW) for all Permanent Members and member contributions continue at a rate of 4.8% of CBW, in order to maintain the financial position of the fund in the future.

1.21 We also recommend the continuation of the application of an additional funding strategy under which the reserve of $5.2 million currently held within the Insurance Reserve be utilised for the purpose of ensuring that vested benefits remain fully funded at all times. An updated review of the Insurance Reserve is due to commence shortly.

1.22 The assets within the Section supporting defined benefit liabilities for active members were invested in the Growth MVP option as at 30 June 2018 ($37.338m) and a small amount in the Fund's Cash Enhanced Option in respect of pensioner members ($0.881m).

1.23 In addition the Trustee has a swap agreement with Goldman Sachs whereby Goldman Sachs agrees to make the required pension payments in respect of the fixed-term and lifetime pensioners in the Section in exchange for a transfer of interest payments and return of capital from a portfolio of index linked US Treasury Bonds (TIPS). The value of the Swap at 30 June 2018 was $6.166m.

1.24 We consider that the investment objectives and strategy adopted by the Trustee continue to be appropriate for the fund of the size and with the defined benefit design of the Section.

1.25 We recommend that the Shortfall Limit of the Section be maintained at 98%.

1.26 We recommend that the Section continue its insurance arrangements.

1.27 In our opinion, expected future life and fixed term pension payments are satisfactorily covered by the assets of the Section set aside for this purpose.

1.28 Finally, we recommend that the Vested Benefit Index of the defined benefits in the Section continue to be monitored on a quarterly basis.

Section B

1.29 The actuarial investigation of Section B shows that there was an excess of assets over liabilities with a Vested Benefits Index of 108.7% as at 30 June 2018.

1.30 In our opinion there is no current requirement to make additional contributions above the standard contributions required for accumulation members at this time, and find that the potential for additional contributions to be required in future has reduced due to the improvement in investment markets since the last investigation.

1.31 In our opinion, on the basis of the actuarial assumptions, Section B has sufficient reserves to meet expected future longer term requirements in respect of the defined benefit guarantee. The projections of the future financial position of the Section show that over the next ten years, the probability that the Section would be in an unsatisfactory financial position and require a funding restoration plan at the end of any particular year is no higher than 4%.

1.32 In addition, the projections show that the probability that the Section's assets will be insufficient to meet the value of the Defined Benefit guarantee in ten years' time is 14%.

1.33 The above projections do not make allowance for the hedging program that has been in effect since August 2017. The intended aim of this program is to further reduce the probability of underfunding, although this has not been modelled as part of this review.

1.34 These results further confirm that while there remains a low probability that the Section's assets may prove to be insufficient at some time in the future, the Section is currently in a sound financial position.

1.35 The member accounts within the Section were invested in accordance with the investment choices made by the members, while the Defined Benefit Reserve was invested in the Cash Enhanced option. We consider that the investment objectives and strategy adopted by the Trustee continue to be appropriate for the fund of the size and with the defined benefit design of the Section.

1.36 We recommend that the Shortfall Limit of the Section be maintained at 98% to accurately take account of the underlying volatility of the assets and liabilities subject to the defined benefit guarantee (i.e. the Shortfall Limit has been set to reflect the volatility of the combination of the member investment choices together with the Defined Benefit Reserve invested in the Cash Enhanced option).

1.37 We recommend that the Section continue its insurance arrangements.

1.38 Finally, we recommend that the Vested Benefit Index be monitored on a quarterly basis.

Section C

1.39 We confirm that Section C had an excess of assets over liabilities with a defined benefit Vested Benefit Index of 109.2% as at 30 June 2018.

1.40 We recommend that the Employer pay the following contributions with effect from 1 July 2018 in respect of defined benefit members:

- 15.0% of salaries; plus

- Top-up payments in respect of any exiting members with Company consent for a retirement between ages 55 and 60, equal to the unfunded difference between the member's retirement benefit and vested benefit (if positive) plus applicable contribution tax; plus

- Top-up payments in respect of any exiting members as a consequence of retrenchment equal to the unfunded difference between the member's retrenchment benefit and vested benefit (if positive) plus applicable contribution tax. In addition to the above contributions the Company is also required to pay a contribution of 3% of Salary for certain members which is to be credited to the member's 3% Accumulation Account.

1.41 We recommend that the Shortfall Limit of the Section be maintained at 98%.

1.42 We recommend that the Section continue its insurance arrangements.

1.43 The Section's assets were invested in the Growth MVP option as at 30 June 2018 ($46.225m).

1.44 We consider that the investment objectives and strategy adopted by the Trustee continue to be appropriate for a fund of the size and with the benefit design of the Section.

1.45 The benefit design of Section C is such that the financial condition is impacted by the nature and timing of the benefits actually paid to members. Our projections of the future financial condition of the Section using the selected actuarial assumptions indicate that on the basis of the above recommendations the value of the Vested Benefit Index will remain above 100% for a period of up to 10 years which is a desired outcome.

1.46 Finally, we recommend that the Vested Benefit Index be monitored on a quarterly basis.

Section E

1.47 The actuarial investigation of Section E shows that there was an excess of assets over liabilities with a Vested Benefits Index of 115.5% as at 30 June 2018.

1.48 The long-term investment strategy for this Section is to invest in the Moderate Option, however, some of the assets are currently invested in Cash Enhanced Option in order to protect the surplus that has built up over time. The total assets for the Section as at 30 June 2018 were $17.227m.

1.49 We consider that the investment objectives and strategy adopted by the Trustee continue to be appropriate for the fund of the size and with the benefit design of the Section.

1.50 We note that as at 30 June 2018 Section E included nine members who had elected on retirement to take a portion of their benefit as a lifetime pension payable from the Section.

1.51 Having regard to the above results, we recommend that the current contribution rate of 30% of Salaries continues to be paid from 1 July 2018 in respect of Employers with employees accruing benefits, in order to maintain the relevant funding objective of a VBI of 110%.

1.52 We recommend that the Shortfall Limit of the Section be maintained at 97%.

1.53 Finally, we recommend that the Vested Benefit Index be monitored on a quarterly basis.

Section F

1.54 The actuarial investigation of Section F shows that there was an excess of assets over liabilities with a Vested Benefits Index of 122.1% as at 30 June 2018.

1.55 The Section's assets were invested in the Fund's Conservative option as at 30 June 2018 ($15.074m).

1.56 We consider that the investment objectives and strategy adopted by the Trustee continue to be appropriate for the fund of the size and with the benefit design of the Section.

1.57 We note that as at 30 June 2018 Section F included one member who had elected on retirement to take a portion of their benefit as a lifetime pension payable from the Section.

1.58 Having regard to the above results, we recommend that the current contribution rate of 22.5% of Salaries continues to be paid from 1 July 2018. However, there is scope for the Company to reduce its contribution rate or take a short contribution holiday. We have commenced discussions with the Company to understand their preferred approach.

1.59 We recommend that the Shortfall Limit of the Section be maintained at 99%.

1.60 Finally, we recommend that the Vested Benefit Index be monitored on a quarterly basis.

Summary of Recommended Contributions Rates

1.61 In summary the recommended contribution rates for each of the Sections are set out below:

Section	Recommended Contributions
DB Contributing and DB Non-Contributing Members of Section A	Employer: 12.6% of Classification Base Wage Employees: 4.8% of Classification Base Wage
Section B	Agreed contributions to be made for the accumulation arrangement, with no additional contributions being required for the defined benefit guarantee.
Section C	15.0% of Salaries; plus Top-up payments in respect of members taking early retirement benefits between age 55 and 60 with Company consent (if Leaving Service Benefit Index falls below 100%); plus Top-up payments in respect of members who exit the as a consequence of retrenchment (if Retrenchment Benefit Index falls below 100%).
Section E	30% of Salaries.
Section F	22.5% of Salaries.

Events Occurring since Investigation Dates

1.62 We are not aware of any other matters arising or events occurring in relation to the Fund or the Sections between the investigation date and the date of signing this report which would cause us to alter our findings or change our recommendations.

Chris Porter
Fellow of the Institute of Actuaries of Australia
21 December 2018

Towers Watson Australia Pty Ltd
Level 4, 555 Bourke Street
Melbourne, VIC 3000

DO: TK/CJP | TR: AS | CR: AS | ER: AS

Reliance Statement and Data

This report is provided subject to the terms of our services agreement dated 3 August 2009 which was originally made with Russell Employee Benefits Pty Ltd and novated in March 2017 to Towers Watson Australia Pty Ltd. This report is provided solely for the Trustee's use and for the specific purposes indicated. It may not be suitable for use in any other context or for any other purpose.

Except where we expressly agree in writing or where required by law, this report should not be disclosed or provided to any third party. In the absence of such consent and an express assumption of responsibility, no responsibility whatsoever is accepted by us for any consequences arising from any third party relying on this report or any advice relating to its contents.

The Trustee may make a copy of this report available to its auditors, the relevant Employers/Unions and to any person to whom the Trustee may be required to provide a copy under relevant legislation, but we make no representation as to the suitability of this report for any purpose other than that for which it was originally provided and accept no responsibility or liability to the Trustee's auditors or the Employers/Unions in this regard. The Trustee should draw the provisions of this paragraph to the attention of its auditors and the Employers/Unions when passing this report to them.

In preparing this report, we have relied upon information and data provided to us orally and in writing by the Trustee and other persons or organisations designated by the Trustee. We have relied on all the data and information provided, including Fund provisions, membership data and asset information, as being complete and accurate. We have not independently verified the accuracy or completeness of the data or information provided, but we have performed limited checks for consistency.

In my opinion, all calculations are in accordance with requirements of applicable legislative requirements, and the procedures followed and the results presented confirm with applicable actuarial professional standards.

Section 2: Introduction

2.1 This report to the Trustee of Maritime Super ("the Fund") is prepared in accordance with Rule 14 of the Fund's Trust Deed, which states the Trustee shall cause the Actuary to make an actuarial investigation of the Fund at intervals of not more than three years. The timing of the actuarial investigation for the Fund is consistent with the requirements of the Superannuation Industry (Supervision) ("SIS") Act.

2.2 This report presents a summary of the results of the actuarial investigations of the Fund which were undertaken by Chris Porter, FIAA, as at 30 June 2018 for the Fund. The results of the valuation are presented in separate reports for each Section of the Fund.

2.3 The previous actuarial valuation of Maritime Super was conducted by Tony Miller, FIAA, of Russell Investments, for each Section of the Fund as follows:

- DB Contributing and DB Non-Contributing Members of Section A: valuation as at 30 June 2016, with report dated 22 December 2016;
- Section B: valuation as at 30 June 2016, with report dated 22 December 2016;
- Section C: valuation as at 30 June 2016, with report dated 22 December 2016;
- Section E: valuation as at 31 December 2016, with report dated 1 March 2017
- Section F: valuation as at 30 June 2016, with report dated 22 December 2016.

2.4 The Fund is governed by a Trust Deed, which was consolidated as at 1 March 2009 and subsequent amendments. The Fund is a complying superannuation fund for the purposes of the SIS Act and the Tax Act respectively.

2.5 The Fund is composed of the following Divisions:

- General Division
- Division 1
- Division 2

These divisions provide a mixture of accumulation based benefits, defined benefits, allocated pensions, fixed term pensions and lifetime pensions. This actuarial investigation is conducted with respect to the members with defined benefits within the following divisions.

General Division

- Section E members
- Section F Members

Division 1

- DB Contributing and DB Non-Contributing Members of Section A

Division 2

- Section B members
- Section C members
- Section D members

2.6 In addition Division 1 includes a number of fixed-term pensioners while Division 2 contains both fixed-term and lifetime pensioners and these pensioners are also included within the scope of the investigations. Because the pensioners share a common investment structure they have been assessed together as part of the review of Section A.

2.7 By their nature, liabilities in respect of accumulation accounts do not require an actuarial investigation as the value of the assets underlying those accounts matches the value of the accounts. The Fund contains separately identifiable assets in respect of each of the defined benefit divisions set out above and each has been subject to a separate actuarial investigation. The following reports have been prepared from these investigations:

- Permanent Members in Section A, including fixed-term pensioners from Division 1 and fixed-term and lifetime pensioners from Division 2;
- Members with Defined Benefits in Section B;
- Section C;
- Section E; and
- Section F.

There are no longer any Section D members in the Fund as at 30 June 2018.

Other Information

2.8 The liabilities of Maritime Super are divided between Defined Benefit liabilities, Accumulation accounts (including accounts held in respect of allocated pensioners) and fixed-term and lifetime pensioner liabilities.

2.9 These investigations cover:

- The financial position and funding at the selected investigation date individually for each of the defined benefit parts above including the adequacy of the reserves within Section B to meet the cost of the guaranteed defined benefits provided in respect of the members of that division; and
- The adequacy of assets held in respect of pensioner liabilities.

2.10 Separate actuarial investigations have been conducted with respect to each Section and a separate report has been prepared in respect of each of those investigations. This report provides a summary of the results from those separate investigations.

Previous Actuarial Valuation

2.11 The last actuarial investigation of the Fund was conducted at the investigation dates set out in the table in paragraph 2.14 below.

2.12 As part of that investigation, assessments of the financial condition of the Fund were conducted and in particular, an assessment of the Vested Benefit Index (VBI) of the Fund and the respective defined benefit Sections was made.

2.13 The VBI measures the amount of coverage of the Fund's vested benefits by the market value of assets and for this purpose, is defined as follows:

$$\text{VBI} = \frac{\text{Net Market Value of Assets}}{\text{Total Vested Benefits}}$$

2.14 At the previous investigation date, the values of VBI with respect to defined benefit liabilities were determined to be as follows:

Section	Investigation Date	Assets ($000's)	DB Vested Benefits ($000's)	DB VBI
Section A	30 June 2016	41,426	40,372	102.2%
Section B	30 June 2016	338,165	313,524	107.9%
Section C	30 June 2016	41,266	40,657	101.5%
Section D	31 December 2016	348	343	101.5%
Section E	31 December 2016	20,135	16,039	125.5%
Section F	30 June 2016	14,293	11,441	124.9%

2.15 In relation to these results it was noted that:

- None of the Sections were in an unsatisfactory financial position as at the investigation date (i.e. the Vested Benefit Index was greater than or equal to 100%).
- None of the Sections were technically insolvent as at the investigation date i.e. in no cases were the assets of the Section less than the total of Minimum Requisite Benefits for the Section.

Recommendations from previous investigations

2.16 The following funding recommendations were made as a result of the previous investigation of each Section:

Section A

- The employer contribution rate in respect of Permanent Members was retained at 12.6% of CBW and member contributions at a rate of 4.8% of CBW.

- It was further recommended that the continuation of the application of an additional funding reserve currently held within the Insurance Reserve be utilised for the purpose of ensuring that vested benefits remain fully funded at all times.

Section B

- No additional contributions were required to increase the reserve held for the purpose of meeting the guaranteed defined benefits.
- It was noted that the probability that the defined benefit reserve may not be sufficient at the end of 10 years to meet the defined benefit guarantee had reduced over the review period to 14.0%.

Section C

- The employer to continue to contribute at a rate of 15% of Salaries, plus
- Additional employer contributions of $650,000 per annum (payable quarterly) until 30 June 2018; plus
- Top-up payments in respect of any exiting members with Company consent for a retirement between ages 55 and 60, equal to the difference between the member’s retirement benefit and vested benefit (if positive); plus
- Top-up payments in respect of any retrenchment benefits equal to the difference between the member’s retrenchment benefit and their vested benefit (if positive) increased for applicable contribution tax.

Section D

- It was noted that Section D contained only one Defined Benefit member as at the Investigation Date.
- The employer to contribute at a rate of:
  - 33.0% of Salaries from 1 January 2017 to 31 December 2020; and
  - 29.2% of Salaries thereafter; plus
  - Top up payments in respect of the deficit between assets and benefit payments for exiting employees as a consequence of retrenchment.

Section E

- Employer contribution rate of 30.0% of Salaries.

Section F

- Employer contribution rate of 22.5% of Salaries.

Section 3: Membership Data and Demographic Experience

Membership Data

3.1 The data for the investigation was supplied by the Fund's Administrator. We have relied on the accuracy of the data provided. In addition we have undertaken checks of this data as at the respective investigation dates in relation to membership reconciliation and reasonableness checks and other ongoing checks over the period under review in relation to the data for the purpose of other actuarial tasks We are satisfied that the data provided is suitable for the purpose of this valuation.

3.2 A breakdown of the membership between each Section is set out in the table below (membership numbers as at the previous investigation date are also shown for comparison):

Section	As at previous investigation date	As at 30 June 2018
DB Contributing and DB Non-Contributing Members of Section A (incl. pensioners)	267	236
Section B	1,826	1,545
Section C	62	54
Section D	1	0
Section E (incl. pensioners)	14	12
Section F (incl. pensioners)	10	9
Total	**2,180***	**1,856**

*Total combines membership data at 30 June 2016 and 31 December 2016.

Other Experience

3.3 Full details of the experience and the assumptions used in valuing the liabilities for each of the Sections are set out in the separate reports for the defined benefit membership groups.

Section 4: Financial Experience

Investment Returns

4.1 The investment returns achieved by each of the Sections' investments from 1 July 2016 to the investigation date and the corresponding assumed returns were as shown in the following table. The returns shown for Section B are the average returns on members' accounts as these members are able to select their own underlying investment option.

4.2 As can be seen, during the investigation period the average investment returns were lower than the assumed rates of return used at the previous actuarial valuation. Taken by itself this had an adverse effect on the financial condition of the Sections, but needs to be considered along with lower than expected rates of salary growth as set out in Section 4.3.

Section	Expected Investment Return	Actual Investment Return Previous Investigation Date to 30 June 2018
DB Contributing and DB Non-Contributing Members of Section A	5.9% p.a.	9.6% p.a.
Section B*	5.3% p.a.	9.6% p.a.
Section C	5.4% p.a.	9.6% p.a.
Section E	5.4% p.a.	7.8% p.a.
Section F	3.3% p.a.	4.7% p.a.

*Average returns on member accounts

Rate of Salary Increases

4.3 For the period from the respective previous investigation date to 30 June 2018, the annualised rate of Salary Growth for the defined benefit members of each Section of the Fund were as follows (the assumptions used for the previous investigation are also shown for comparison):

Section	Expected Salary Growth	Actual Salary Growth Previous Investigation Date to 30 June 2018
DB Contributing and DB Non-Contributing Members of Section A	3.0% p.a.	2.0% p.a.
Section B	3.0% p.a.	2.0% p.a.
Section C	3.0% p.a.	1.7% p.a.
Section E	2.5% p.a.	1.5% p.a.
Section F	3.0% p.a.	4.3% p.a.

4.4 The actual rate of salary growth for Section F was greater than assumed at the last valuation and will have had a negative effect on the financial condition of the Sections. Conversely, the other Sections have experienced lower than expected salary growth which has had a positive effect on the financial condition of those Sections.

4.5 In practice it is the difference or "gap" between the investment result and the rates of salary growth that is of most importance, rather than the absolute values. The following table shows this difference along with the assumed gap for each of the Sections.

Section	Expected Gap	Actual Gap
DB Contributing and DB Non-Contributing Members of Section A	2.9% p.a.	7.6% p.a.
Section B	2.3% p.a.	7.6% p.a.
Section C	2.4% p.a.	7.9% p.a.
Section E	2.9% p.a.	6.3% p.a.
Section F	0.3% p.a.	0.4% p.a.

4.6 The Actual Gap for Section F was lower than assumed at the last valuation and will have had a negative effect on the financial condition of the Sections. Conversely, the other Sections have experienced higher Actual Gap than expected which has had a positive effect on the financial condition of those Sections.

Section 5: Assets

Valuation of Assets as at Investigation Date

5.1 The apportionment of the market value of the assets towards defined benefits for each Section as advised by Maritime Super, is as follows:

Section	Asset Value ($000's)
DB Contributing and DB Non-Contributing Members of Section A	44,385
Section B	300,490
Section C	46,225
Section E	17,227
Section F	15,074
Insurance Reserve	34,099

5.2 We are satisfied that the above values are suitable for the purpose of measuring the each sections financial position and is consistent with the method and assumptions used to determine the liabilities.

Section 6: Investments

6.1 As at 30 June 2018, members of the Fund with accumulation benefits, including Section B members with a defined benefit guarantee, have the choice of the following investment options for their benefit accounts:

- Australian Shares Option
- International Shares Option
- Growth Option and Growth MVP (Managed Volatility Process) Option
- Balanced Option
- Moderate Option
- Conservative Option
- Cash Enhanced Option
- Cash Option
- Indexed Diversified Option
- Fixed Term Investment Option

6.2 As at the respective investigation dates the defined benefit assets of the Fund were invested as follows:

Section	Investment Option
DB Contributing and DB Non-Contributing Members of Section A	Growth MVP
Section B (DB Reserve)	Cash Enhanced
Section C	Growth MVP
Section E	Moderate*
Section F	Conservative
Life and Fixed Term Pensioners	Goldman Sachs Swap plus Cash Enhanced

*Part of the Surplus assets in respect of Section E are invested in the Cash Option.

6.3 The investment objectives of the core investment options are as follows:

- Conservative Option – to outperform the annual rate of inflation (CPI) by around 1% pa after fees and taxes over rolling 10-year periods.
- Moderate Option – to outperform the annual rate of inflation (CPI) by around 2.5% p.a. after fees and taxes over rolling 10 year periods.

- Balanced Option – to outperform the annual rate of inflation (CPI) by around 2.75% pa after fees and taxes over rolling 10-year periods.
- Growth Option – to outperform the annual rate of inflation (CPI) by around 3.5% pa after fees and taxes over rolling 10-year periods.

The Growth MVP Option is structured to invest 95% of funds according to the target asset allocation of the option with the remaining 5% of funds used to actively manage risk during periods of market volatility.

6.4 With the exception of certain money market deposits, the Fund's investments are managed by external investment managers.

6.5 The strategic asset allocations of the Conservative, Moderate, Balanced and Growth Options are summarised in the following table:

Asset Class	Conservative	Moderate	Balanced	Growth
Australian Equities	10%	24%	25%	35%
International Equities	10%	24%	25%	35%
Property	3%	7%	8%	8%
Private Equity	2%	5%	5%	6%
Infrastructure	4%	4%	4%	4%
Growth Alternatives	1%	3%	3%	2%
Total Growth Assets	**30%**	**67%**	**70%**	**90%**
Defensive Alternatives	10%	10%	10%	2%
Fixed Interest	20%	11%	12%	5%
Cash Enhanced	40%	8%	8%	3%
Total Defensive Assets	**70%**	**29%**	**30%**	**10%**
Total	**100%**	**96% (plus 4% MVP overlay)**	**100%**	**100%**

6.6 We are satisfied that these portfolio structures will be reasonably expected to achieve the investment return objectives set out above. We further believe that this objective is consistent with the long-term investment assumptions used for the purpose of this investigation.

6.7 We consider that the investment objectives and strategies adopted by the Trustee continue to be appropriate for each Section given the size and with the benefit design of these Sections. In reaching this conclusion we have noted that in the first instance the Employer assumes responsibility for making up any funding shortfall. However, the Trustee may wish to continue to review these investment options and consider a reduction in the investment risk profile once a Section's funding objective has been achieved.

Section 7: Funding Method and Assumptions

Valuation of Benefit Liabilities

7.1 As in previous valuations, projection methods were used to value the benefit liabilities and assess long-term contribution requirements. In addition short-term funding targets were also applied where appropriate to assess the capacity of the Sections to provide greater than 100% coverage of vested benefits and to meet funding targets.

Funding Methods and Funding Objectives

7.2 The funding method and funding objectives vary between each Section. Full details of the funding method and funding objectives used in valuing the liabilities and determining the contributions payable for each of the Sections are set out in the separate reports for the defined benefit membership groups.

Long-term Funding Assumptions

7.3 The following table summarises the key financial assumptions used for the valuation of each Section.

Before Retirement

Section	Expected Long Term Investment Return	Expected Rate of Salary Growth
DB Contributing and DB Non-Contributing Members of Section A	4.8% p.a.	3.0% p.a.
Section B	Accumulation Balances: 4.6% p.a. Reserves: 2.6% p.a.	3.0% p.a.
Section C	4.6% p.a.	3.0% p.a.
Section E	4.5% p.a.	2.5% p.a.
Section F	3.4% p.a.	3.0% p.a.

After Retirement

Section	Expected Long Term Investment Return	Expected Pension Increases
Section E	4.9% p.a.	0.0% p.a.
Section F	3.9% p.a.	0.0% p.a.

Section 8: Financial Position at the Investigation Date

8.1 The “solvency” of a superannuation fund generally relates to the ability of the Fund to meet its obligations, and therefore involves a measure of the assets against accrued liabilities at a particular date of measurement.

8.2 There are a number of measures of solvency, which involve measures of assets (e.g. Market Value) and different measures of liabilities (e.g. voluntary withdrawal benefits, accrued retirement benefits). Appropriate combinations of these measures are made to consider various aspects of solvency and funding within each Section and for the Fund in aggregate.

Relevant Legal Requirements

8.3 There are two solvency measures in the SIS Regulations for a regulated fund which provides Superannuation Guarantee benefits. These are:

Unsatisfactory Financial Position

Under the applicable legislation, a defined benefit fund is considered to be in an unsatisfactory financial position if the net assets are less than the vested benefits. This is measured by the Vested Benefits Index (VBI) which is the ratio of the net realisable value of assets to the vested benefits. The vested benefits are the aggregate withdrawal benefits (or, where eligible, the retirement benefits or the value of pensions) payable should all members choose to leave the fund on the measurement date. A VBI of less than 100% implies that the assets do not cover its vested benefits.

Technical Insolvency

Where the assets of a fund do not cover the Minimum Requisite Benefits (i.e. the minimum benefits required to be provided under the Superannuation Guarantee legislation) the fund is technically insolvent.

8.1 In addition, the Prudential Standard SPS 160 also requires the Actuary to include a statement:

> *“as to whether or not the RSE actuary expects that an RSE actuary will be able to certify the solvency of the fund in any funding an solvency certificate required during the three-year period following the valuation date.”*

8.2 Hence, not only is the solvency position at the valuation date important, but also the likelihood of this position being maintained over the subsequent three years.

Value of Accrued Benefits

8.3 In practice, there will be a mix of members who exit in the short term and members who remain until retirement. There may also be some death and TPD benefits payable. A second measure to assess the adequacy of assets is the value of accrued benefits, which represents the actuarial present value of the accrued benefits – taking account of the expected exits from various causes by using appropriate decrement assumptions. The Accrued Benefits Index (ABI) is the ratio of the market value of assets to the present value of accrued benefits.

Vested Benefit Index

8.4 The DB Vested Benefit Index (DB VBI) as at the investigation date for each defined benefit Section is set out in the table below:

Section	Assets ($000's)	DB Vested Benefits ($000's)	DB VBI
DB Contributing and DB Non-Contributing Members of Section A	44,385	40,123	110.6%
Section B	300,490	276,291	108.7%
Section C	46,225	42,318	109.2%
Section E	17,227	14,909	115.5%
Section F	15,074	12,350	122.1%

8.5 As can be seen from the above table, all indices are above 100% and therefore none of the Sections were in an unsatisfactory financial position (as defined in the applicable legislation) at the investigation date.

8.6 For all Sections, the vested benefits exceed the minimum requisite benefits, and since the VBI is greater than 100% for all Sections, no Section is technically insolvent at 30 June 2018.

8.7 All Sections are expected to remain solvent over the next three years, on the basis of the actuarial assumptions and assuming the Employers contribute at the recommended rates with the respective values of DB VBI expected to remain above 100%.

Accrued Benefit Index

8.8 The Accrued Benefit Index (ABI) as at the investigation date for each defined benefit Section is set out in the table below:

Section	Assets ($000's)	Accrued Liability ($000's)	ABI
DB Contributing and DB Non-Contributing Members of Section A	44,385	36,700	120.9%
Section B	300,433	276,774	108.5%
Section C	46,225	42,438	108.9%
Section E	17,227	14,598	118.0%
Section F	15,074	13,694	110.1%

8.9 Values of the ABI above 100% are an indication that on the basis of the selected assumptions, the assets are sufficient to meet all benefits expected to arise in respect of service to date.

Section 9: Long-Term Funding

Projection of Long-Term Financial Position

9.1 We have projected the long-term financial position for each Section in order to determine whether the current contributions will be sufficient to meet the Section's funding objective. Where the contributions are deemed to be insufficient we have recommended an alternative rate of contributions that is expected to achieve the funding objectives.

9.2 Details of these long-term projections, recommended contributions and sensitivity analyses are set out in the separate reports for each Section.

Contribution Recommendations

9.3 The recommended contribution rates for each of the Sections are set out in the table below:

Section	Recommended Contributions from 1 July 2018
DB Contributing and DB Non-Contributing Members of Section A	Employer: 12.6% of Classification Base Wage Employees: 4.8% of Classification Base Wage
Section B	Agreed contributions to be made for the accumulation arrangement, with no additional contributions being required for the defined benefit guarantee
Section C	15.0% of Salaries; plus Top-up payments in respect of members taking early retirement benefits between age 55 and 60 with Company consent (if Leaving Service Benefit Index falls below 100%); plus Top-up payments in respect of members who exit as a consequence of retrenchment (if Retrenchment Benefit Index falls below 100%)
Section E	30% of Salaries
Section F	22.5% of Salaries

Ongoing Monitoring of Solvency

9.4 For each Section we recommend that the VBI position continue to be monitored on a quarterly basis throughout the inter-valuation period to ensure that the above contribution recommendations are sufficient to maintain solvency above 100% and to assess whether any further short-term increases (or decreases) are appropriate.

Section 10: Insurance

10.1 The Fund's insurance arrangements in respect of each of the membership groups are examined in detail in the separate reports for the defined benefit membership Sections.

10.2 In summary:

- For all members, benefits paid on death and total and permanent disablement are insured by American International Assurance Company (Australia) (AIA).

- For members in Section A, this arrangement commenced on 1 January 2010. Prior to that date death and Total and Permanent Disablement Benefits were self–insured.

- For members in Section B, Incurred but not Reported (IBNR) claims that arose prior to 30 June 2008 but were reported after that date are also externally insured. A similar arrangement applies for IBNR claims arising prior to 1 January 2010 in respect of members in Section A.

- The Fund has retained an Insurance Reserve of approximately $34.1 million. This reserve has been managed by the Trustee for a range of approved purposes including meeting the cost of any previously self-insured claims in respect of current or former Section A Members not covered by insurance policies. No portion of this reserve has been applied as an asset of a Section for the purpose of preparing the recommendations arising from this actuarial review.

- There is also a small self-insured liability in relation to members in Section C who receive a total and temporary disablement benefit which is paid for more than two years. In practice, the probability of paying such a benefit for longer than two years is very small, and we are not aware of any TTD payments which have been ongoing for more than two years for the four years to 30 June 2018.

- Overall, we consider that the Fund's insurance arrangements in respect of death, TPD and TTD benefits to be appropriate.

Appendix A: Membership Summary

Summary of Fund Membership at 30 June 2018

The number of members as at 30 June 2018 totalled 27,156. A breakdown of these members between defined benefit and accumulation for each Part of the Fund is set out in the table below (membership numbers as at 30 June 2016 are also shown for comparison):

Number of Members	As at 30 June 2016			As at 30 June 2018		
Division/Section	DB	Accum	TOTAL	DB	Accum	TOTAL
Accumulation Advantage	-	8,698	8,698	-	8,488	8,488
Accumulation Basic	-	2,381	2,381	-	2,503	2,503
Accumulation Plus	-	3,561	3,561	-	3,316	3,316
Allocated Pensions	-	3,345	3,345	-	3,453	3,453
AMOU	-	10	10	-	4	4
Reliance	-	22	22	-	30	30
All other Accumulation Categories	-	67	67	-	59	59
Retained	-	5,889	5,889	-	5,406	5,406
Section A	156	-	156	143	-	143
Section B	1,826	1,776	3,602	1,545	1,789	3,334
Section C	62	152	214	54	121	175
Section D	1	11	12	0	15	15
Section E	19	118	137	12	81	90
Section F	10	40	50	9	32	41
Fixed term and Lifetime Pensioners	111	-	111	93	-	93
FTP Pensioners	-	8	8	-	3	3
Total	**2,185**	**26,078**	**28,263**	**1,856**	**25,300**	**27,156**