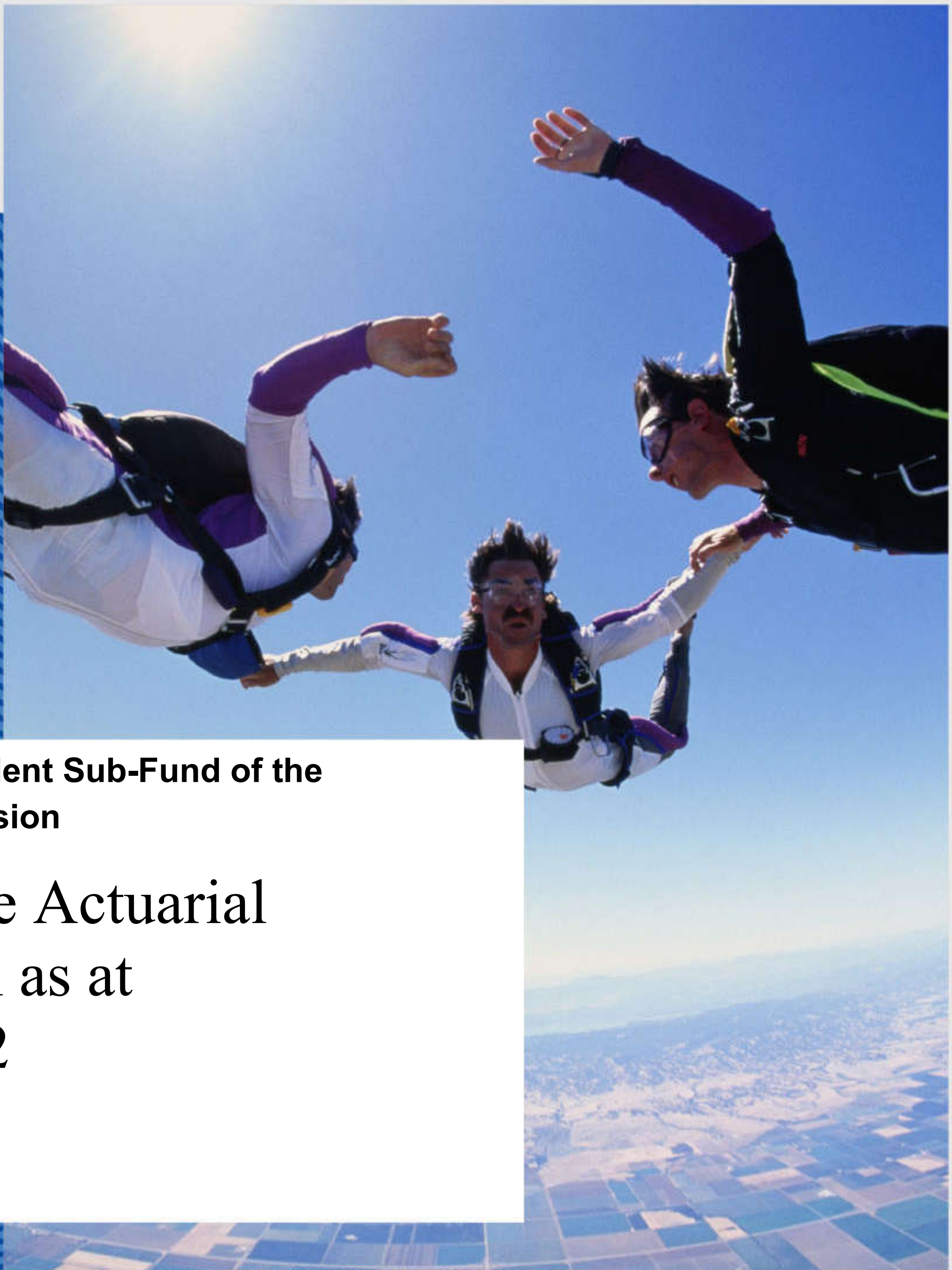


Maritime Super, Trident Sub-Fund of the Maritime Super Division

Report on the Actuarial Investigation as at 30 June 2022

wtwco.com

6 December 2022

Summary

I am pleased to present my report to the Trustee of Maritime Super on the actuarial investigation into the Maritime Super, Trident Sub-Fund of the Maritime Super Division as at 30 June 2022.

This Summary sets out the key results and recommendations contained in this report.

Summary of Data

The assets of the Sub-fund are invested in the Fund's Capital Stable investment option through the Hostplus Pooled Superannuation Trust.

A summary of membership numbers and the value of net assets of the Sub-fund at 30 June 2022 and 30 June 2020 are shown below:

Measure	30 June 2022	30 June 2020
Number of Members (Active)	6	8
Number of Members (Pensioners)	1	1
Value of Net Assets	$15,520,000	$15,855,000

Solvency

The financial position of the Sub-fund has improved over the intervaluation period, as shown in the increased Vested Benefits Index from 114.0% as at 30 June 2020 to 121.0% as at 30 June 2022.

The solvency measures as at 30 June 2022 and 30 June 2020 are also shown below:

Measure	30 June 2022	30 June 2020
VBI	121.0%	114.0%
PVABI	115.4%	102.3%
MRBI	195.4%	175.7%

Contents

Throughout this report the following terms are used:

Fund
Maritime Super

Sub-fund
Maritime Super, Trident Sub-fund of the Maritime Super Division

Trustee
Maritime Super Pty Ltd, the Trustee of Maritime Super

Employer
Trident LNG Shipping Services Pty Ltd

Trust Deed or Rules
The Sub-Fund's Trust Deed dated 1 March 2009

The Investigation Date or Valuation Date
30 June 2022

Funding

I recommend the following contributions are paid to the Sub-fund by the Employer for the period commencing 1 July 2022:

- 22.5% of Salaries; plus
- Where a member elects to receive a lifetime pension on retirement, an additional contribution to be determined by the actuary to maintain the funding level at the Trustee's targeted level.

In addition, I continue to recommend that the Employer contribute at the required amounts to meet any Superannuation Guarantee, contractual or any other obligations in respect of accumulation liabilities in the Sub-fund.

Other Matters involving Actuarial Oversight

I further recommend that:

- The Trustee to retain the shortfall limit to 99% based on the current investment structure of the Sub-fund;
- The Trustee monitor the financial position of the Sub-fund quarterly throughout the following investigation period, with results reviewed by the Actuary;
- The Trustee obtain a letter from the Actuary in the intervening years between regular actuarial investigations which reports to the Trustee on the vested benefit position of the Sub-fund; and
- Current external insurance arrangements for death and disablement benefits be retained.

The next actuarial investigation of the Sub-fund should be conducted with an effective date no later than 30 June 2024 based on the APRA determination dated 13 April 2015. Without this determination actuarial investigations would otherwise be required on an annual basis.

The recommended employer contribution rates will be reviewed at that time or at an earlier date if considered appropriate as a consequence of the regular review of the VBI or as required by legislation.

I am not aware of any event since 30 June 2022 that warrants review of the recommendations in this report.

Chris Porter
Fellow of the Institute of Actuaries of Australia

6 December 2022

ABN 45 002 415 349 AFSL 229921
Level 4, 555 Bourke Street, Melbourne VIC 3000

DO: RC | TR: EC | CR/ER: CJP

Section 1: Introduction

Scope

This investigation has been prepared effective 30 June 2022 for Maritime Super Pty Ltd, Trustee of Maritime Super by the actuary to the Fund, Chris Porter, FIAA.

The Trust Deed governing the Fund requires an actuarial investigation and report to be due at least every three years. Under subparagraph 14(d) of Prudential Standard SPS 160 Defined Benefit Matters, APRA has determined that the Trustee require regular actuarial investigations of the Fund to be made every two years.

The main aims of the investigation are to examine the current financial position of the Sub-fund and the long-term funding of the Sub-fund's benefits, and to provide advice to the Trustee on the contribution rate at which the Employer should contribute and on any other matters the actuary considers relevant.

This investigation is primarily interested in the defined benefit liabilities of the Sub-fund, and unless otherwise specified, this report relates only to such defined benefit liabilities. The Defined Contribution liabilities of the Sub-fund, including those that relate to defined benefit members, are fully funded and do not impact upon the Defined Benefit liabilities. No investigation is required regarding the Defined Contribution liabilities, although in my recommendations I have continued to recommend that the Employer contribute to meet any Superannuation Guarantee, contractual or any other obligations in respect of such liabilities.

This report has been prepared in accordance with Professional Standard 400, dated March 2020, issued by the Institute of Actuaries of Australia.

Background

The Fund is covered 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 Superannuation Industry (Supervision) Act (SIS Act) and for taxation purposes.

The Sub-fund is closed to new members.

Contributions

The level of Employer contributions is to be agreed by the Trustee and the Employer acting on the advice of the Actuary. This power is set out in Clause 4.1 of Schedule 5 of the Trust Deed which states:

> *"Subject to Statutory Requirements, each Employer will contribute in respect of Members employed by it on such basis as is agreed between the Trustee and the Employer from time to time and, if necessary or appropriate, after obtaining the advice of the Actuary, provided that:*
>
> a. *contributions will be made at such times and in such manner as the Trustee and the Employer agree; and*

b. *the Employers shall, to the extent necessary after taking into account the financial state of the relevant part of the Plan and having regard to the advice and valuations of the Actuary, make such contributions as are required from time to time to provide the benefits payable in respect of Members under this Schedule 5"*

If the Employer fails to pay any contributions required by the Trustee, then the Trustee may vary the benefits payable to members.

Previous Actuarial Investigation

The previous actuarial investigation of the Sub-fund was carried out by Chris Porter, FIAA, as at 30 June 2020, with the results of that investigation set out in a report dated 10 December 2020.

The report concluded that the Sub-fund was not in an unsatisfactory financial position (as defined by SIS legislation) at that date and recommended that the following contributions were paid by the Employer:

- 22.5% of Salaries; plus
- Where a member elects to receive a lifetime pension on retirement, an additional contribution equal to the difference between the value of the pension and the value of the member's vested benefit (i.e. allowing for 30% pension election).

I understand that the Employer has contributed amounts consistent with these rates.

Experience since 30 June 2022

Since 30 June 2022 the net return on the Sub-fund's assets to 30 September 2022 was approximately 0.2% in respect of assets backing active defined benefit liabilities, and 0.3% in respect of assets backing lifetime pensioners. These returns are less than the return assumptions adopted in this investigation.

The actual experience since 30 June 2022 has deteriorated the financial position of the Sub-fund. Because of this, I have taken into account experience since 30 June 2022 when carrying out the projection of the financial position of the Sub-fund from that date.

I have been made aware that the remaining active members of the Sub-fund are expected to be retrenched and terminate service with an effective date of 31 March 2024. As this has a material impact on the financial position of the Sub-fund, I have allowed for it in the measurement and projection of liabilities in this investigation.

The recommendations in this report have been made on the basis of the Sub-fund maintaining a Principal Employer. I am currently engaged with the Trustee and Employer in an effort to implement an alternative Principal Employer. If, for any reason, an alternative Principal Employer is not secured, it would be necessary to review the recommendations in this report.

It is my understanding that the Fund is currently in the process of implementing a Successor Fund Transfer (SFT) to Hostplus Superannuation Fund, with an intended transfer date in 2023. I consider that the recommendations set out in this report remain appropriate with consideration to the Hostplus SFT.

Limitations

This report is provided subject to the terms set out herein and in our service agreement dated 24 July 2009 and signed on 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 above. It may not be suitable for use in any other context or for any other purpose.

Except where we expressly agree in writing, this report should not be disclosed or provided to any third party, other than as provided below. 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.

We consent to the Trustee making a copy of this report available on the Fund’s website where required in accordance with the relevant legislation.

The Trustee may make a copy of this report available to its auditors, the Employer or 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 the Employer or any third party in this regard. The Trustee should draw the provisions of this paragraph to the attention of its auditors and the Employer or Unions when passing this report to them.

In preparing this valuation, 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 and Sub-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. The data and information we have relied upon is shown in the “Additional Information” section of this report.

In our opinion, all calculations are in accordance with requirements of applicable legislative requirements, and the procedures followed and the results presented conform to applicable actuarial standards of practice.

Section 2: Solvency

Solvency Measures

When assessing the adequacy of the assets and future contribution rates, both the long-term and short-term solvency positions should be considered. To assess the solvency position, I have considered the following funding solvency measures:

- Vested Benefits Index (VBI), the ratio of assets to the vested benefits, which represent the total amount which the Sub-fund would be required to pay if all members were to voluntarily leave service (or are payable for benefits in the form of lifetime pensions or deferred benefits) on the investigation date;[1]
- The Present Value of Accrued Benefits Index (PVABI), the ratio of assets to the present value of accrued benefits, which represents the value in today's dollars, of expected future benefits payable based on membership completed to the valuation date,[2] and
- The Minimum Requisite Benefits Index (MRBI), the ratio of assets to the portion of the Minimum Requisite Benefits (MRB) as defined in the Sub-fund's Benefit Certificate that relates to defined benefits.[3]

The following table shows the above indices as at the valuation date, as well as the prior valuation date.

	As at 30 June 2022			As at 30 June 2020		
Measure	**Value of Liability**	**Value of Assets**	**Index**	**Value of Liability**	**Value of Assets**	**Index**
VBI	$12,829,000	$15,520,000	121.0%	$13,910,000	$15,855,000	114.0%
PVABI	$13,450,000	$15,520,000	115.4%	$15,506,000	$15,855,000	102.3%
MRBI[4]	$7,941,000	$15,520,000	195.4%	$9,022,000	$15,855,000	175.7%

All indices have improved from those at the previous investigation date. This is primarily a result of positive experience of the Sub-fund since 30 June 2020, in particular, higher than expected investment performance. Additionally, a higher discount rate used in the valuation of pensioner liabilities has

---

[1] Based on the valuation assumptions chosen, the Sub-fund's vested benefits has been calculated as:
- In respect of members eligible for pensions at the valuation date, 50% of full lump sum defined benefit entitlement, plus 50% of expected present value of defined benefit pension entitlement;
- In respect of members not eligible for pensions at the valuation date, the lump sum defined benefit entitlement, plus
- In respect of members who are receiving pensions or have deferred benefit entitlements, the present value of such entitlements.

[2] Benefits have been apportioned to past service by calculating the projected benefit payable using only service that is completed to the valuation date in the benefits formula.

[3] The minimum benefits in respect of pensioners or deferred members are the same as their vested benefits. For employee members, the minimum benefits are estimated as these benefits are not maintained by the Fund's administrator.

[4] The value of the MRB at 30 June 2020 represents an estimate on an aggregate Sub-fund level. As at 30 June 2022. The MRB has been determined on an individual basis consistent with the MRB defined in the Benefit Certificate effective 30 June 2022.

resulted in an increase (in isolation) to all indices, partially offset by the impact of an increase in pension uptake assumption on the VBI and PVABI indices.

The PVABI and VBI have improved by 7.9% and 2.4% respectively as a result of assumptions changes in isolation. This was compounded by gains due to experience over the intervaluation period.

The VBI is above 100% as at the valuation date, and as such, the Sub-fund is to be treated as being in a satisfactory financial position as at that date.

Retrenchment Benefits, Other Discretionary or Contingent Benefits

The benefit payable on retrenchment is materially the same as the resignation benefit, and therefore the Sub-fund does not have any material additional funding strain that would be caused by any retrenchments.

The Sub-fund has not historically paid any material discretionary benefits, so I have not analysed the impact of such discretionary benefits. There are no other material contingent benefits offered by the Sub-fund.

Termination Benefits

Under the Trust Deed, on termination of the Fund, and by implication the Sub-fund, after making allowances for any costs or expenses which are unpaid or are likely to be incurred in connection with the termination of the Sub-fund and for any benefits which became payable before the termination date, the assets of the Sub-fund must be used in the following order and the Fund must then be wound up:

a. In the payment or provision of accrued benefits in respect of Members who have accumulation accounts;
b. In the payment or provision of the actuarial reserve to members, less any amount already paid under (a) above;
c. In the payment and / or transfer of any residual assets among Employers.

Should the remaining assets of the Sub-fund be insufficient to provide for the benefits in a. or b., then the remaining assets shall be applied rateably amongst entitled members under a. or b., as applicable.

In the event of the termination of the Sub-fund, the Trustee must determine if it is obliged to secure pensions by purchasing annuities from a life insurance company or by some other arrangement.

Further, upon termination, it could become necessary to liquidate existing assets. Given the assets of the Fund are invested in the Hostplus Pooled Superannuation Trust investment options, I do not expect there would be any liquidity issues if it became necessary to quickly realise funds, and the full amount of the Sub-fund's assets at the date of termination would be available to use for meeting a. to c. (above). Therefore, I have not allowed for any discount on assets to reflect the sale of illiquid assets in the event of termination.

To broadly illustrate the Sub-fund’s ability to pay benefits upon termination, I have estimated the cost of purchasing an annuity to secure the pension liability by valuing the pension liability using a discount rate that reflects the yield available on Australia high quality corporate bonds, plus a 10% loading on the liability value to make broad allowance for any administration expenses and profit margins included in the premiums charged by an insurer as well as additional expenses associated with the transfer of liabilities. I note that it is difficult to estimate the true cost of annuity contracts without seeking market quotes from an insurer.

The following table shows the estimated remaining assets available to other members in this scenario, and the ratio of remaining assets to active members to their Members’ Reserve (i.e. the vested benefits assuming all benefits are paid in lump sum form) and MRBs would be 138.7% and 223.1% under this scenario:

	Coverage for Members’ Reserve	Coverage for MRBs
Net Assets at 30 June 2022 in respect of DB members	$15,520,000	$15,520,000
Less: Assets required to secure pension liabilities	$1,970,000	$1,970,000
Assets available to Active Members	$13,550,000	$13,550,000
Members’ Reserve / Minimum Requisite Benefits for Active Members	$9,769,000	$6,073,000
Coverage for Members’ Reserve / Minimum Requisite Benefits	138.7%	223.1%

Because these percentages are over 100%, I expect the Sub-fund to be able to pay the benefits required under the Trust Deed in the event that the Sub-fund is terminated.

If the Sub-fund was ever terminated, the Trustee would need to seek both actuarial and legal advice at that time to consider the method of determining and payment form of benefits from the Sub-fund.

Ability to Pay Pensions

SPS 160 requires the Sub-fund’s actuary to certify whether there is a high degree of probability to pay current pensions in payment as required by the Trust Deed.

In making this certification, I have considered that in the case of a wind-up of the Sub-fund, the assets, after allowing for other liabilities that rank ahead of current pensioners such as expenses, currently exceed the current Defined Benefit Pension Value by a large margin. I note that this certification does not extend to lifetime pension options available to current active members.

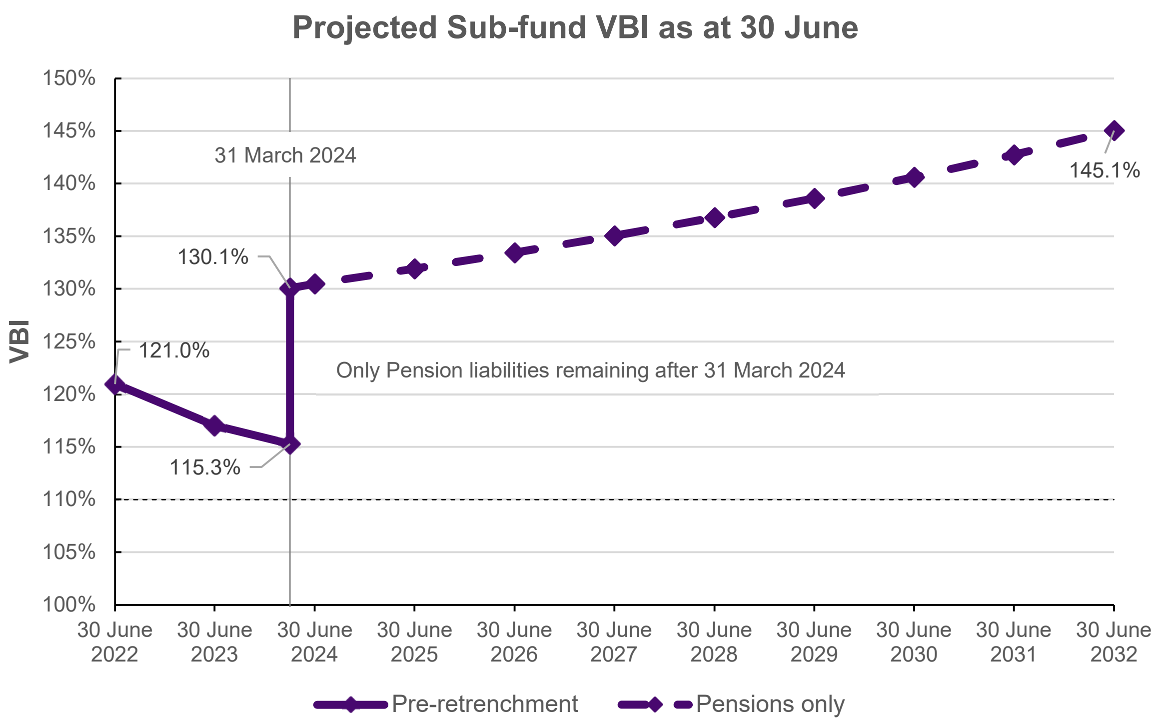
Section 3: Funding

This section considers the long-term funding of the Sub-fund and assesses the contributions required in order to fund benefits payable in future years. To determine the long-term contribution rates, I have used the Projected Benefit funding method as described in the “Additional Information” section of this report.

Vested Benefit Projection

The Trustee has a solvency target for the Sub-fund of maintaining the VBI to be above 110%, which is above the level required for the Sub-fund to be in a satisfactory financial position. In order to assess whether the existing Employer contributions of 22.5% of Salaries is likely to meet this target, I have projected the Sub-fund’s Vested Benefits Index over the next ten years. I have allowed for actual investment return experience to 30 September 2022 in this projection.

It is important to note that under this projection, all remaining active members are assumed to cease service at 31 March 2024 and 50% of the liability emerging at that time will be paid as a lump sum, while the remaining 50% will be converted to a lifetime pension.

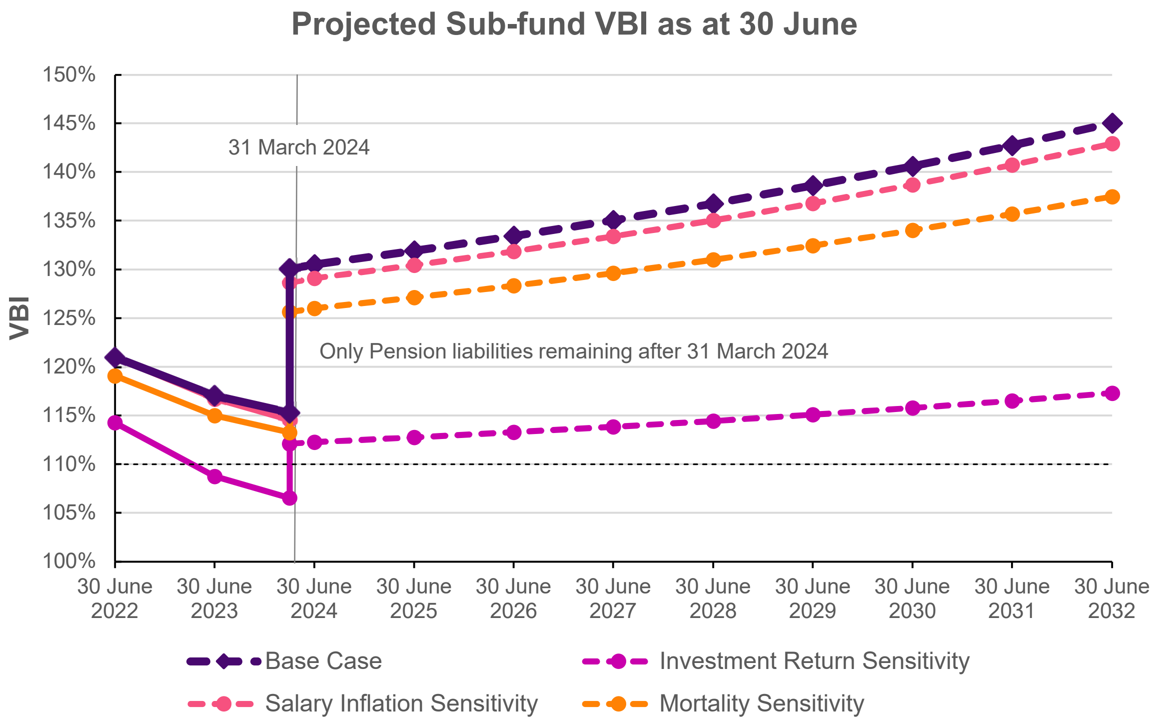


Sensitivity Analysis

In making a recommendation on the level of contributions that the Employer should make to the Sub-fund, it is useful to consider the sensitivity of the analysis above to reasonable variations in the valuation assumptions. The following table shows the VBI and PVABI calculated if key assumptions had been varied as described below:

	This Valuation Basis	Scenario 1	Scenario 2	Scenario 3
Description	**Base Case**	**Investment Return Sensitivity**	**Salary Inflation Sensitivity**	**Mortality Sensitivity**
Discount Rate (actives)	4.0%	3.0%	4.0%	4.0%
Discount Rate (pensioners)	5.1%	4.1%	5.1%	5.1%
Expected Price Inflation	6.1% in 2022, 4.6% in 2023	6.1% in 2022, 4.6% in 2023	6.1% in 2022, 4.6% in 2023	6.1% in 2022, 4.6% in 2023
Expected Salary Growth in excess of Price Inflation	Per member assumptions	Per member assumptions	Per member assumptions +1%	Per member assumptions
Mortality Basis	70% ALT2015-17	70% ALT2015-17	70% ALT2015-17	55% ALT2015-17
Future Mortality Improvements	2% p.a. from 1 July 2016	2% p.a. from 1 July 2016	2% p.a. from 1 July 2016	2% p.a. from 1 July 2016
VBI	121.0%	114.3%	121.0%	119.1%
PVABI	115.4%	106.4%	114.6%	113.4%

Similarly, the Sub-fund's projected VBI over the next three years under the varied assumptions are shown in the graph below:



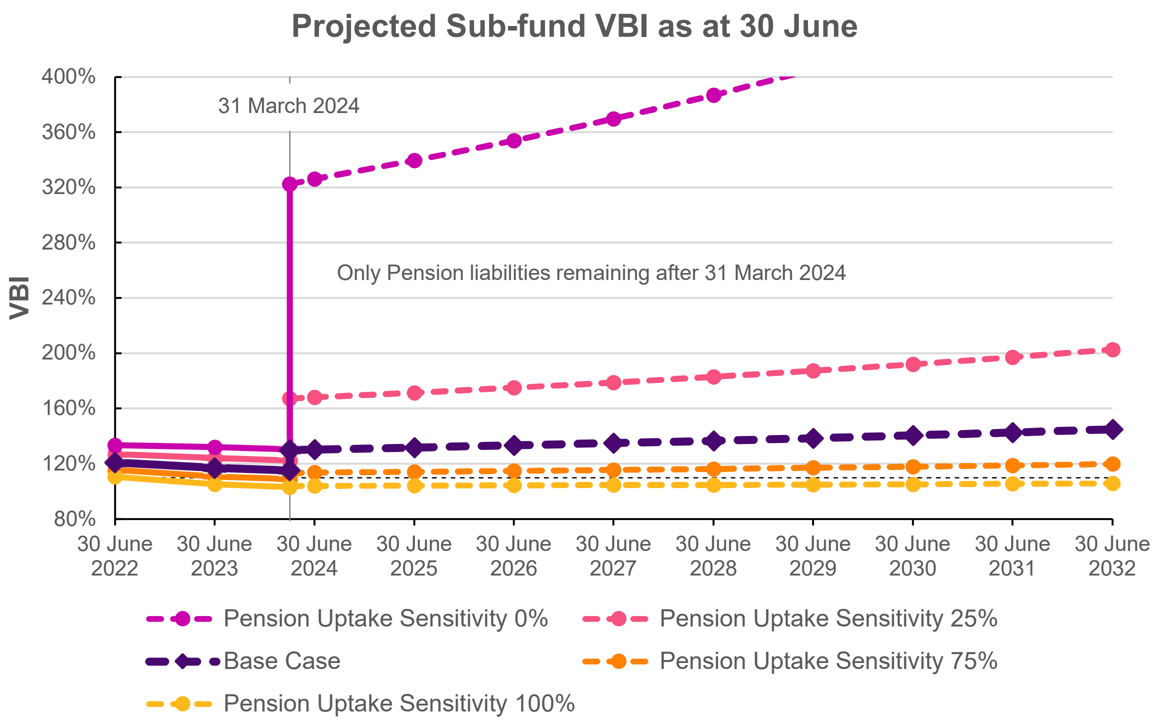
These results show that the Sub-fund's projected financial position is sensitive to long-term actuarial assumptions. While the sensitivities have been selected to be illustrative of reasonable changes in the valuation assumptions, they do not represent the upper or lower bounds of possible outcomes and more extreme outcomes are possible.

Sensitivity to Pension Uptake

On retirement, active members of the Sub-fund have the option to receive benefits in the form of a lifetime pension. Under the current assumptions, the lifetime pension option is of significantly higher value than benefits taken in the form of a lump sum.

Due to the small number of active members remaining in the Sub-fund, the financial position of the Sub-fund is particularly sensitive to pension elections different to the current assumption of 50%.

The graph below shows the Sub-fund's projected VBI over the next three years under the assumption that 0%, 25%, 75% and 100% of retirement benefits are taken in the form of a lifetime pension.



Under the 0% pension uptake assumption, the VBI is projected to increase significantly in 2024 as a result of the retrenchment of all remaining active members. Members are all assumed to take a lump sum benefit in that scenario and hence the remaining dollar surplus in the Sub-fund is then spread over a much smaller liability for the one remaining pensioner member. A similar feature can be seen under the other scenarios, but to a lesser extent.

The projections demonstrate that the current level of assets is expected to be sufficient to maintain a VBI of over 100% over the next three years, even if all retrenched active members select a lifetime pension from the Sub-fund in 2024. However, the VBI would fall below the Trustee's target of 110% under that scenario.

In order to prevent the material deterioration in the financial position of the Sub-fund where a member elects to receive a lifetime pension on retirement, I have recommended that the actuary calculates an additional Employer contribution where a member elects to receive a retirement benefit in the form of a lifetime pension where that election would result in a material reduction of the funding level for remaining members.

Summary

On the basis of the above results, and having regard to the Company's preferences as well as the long-term target objective of the Trustee to achieve a funding target of a VBI of 110% for the Sub-fund, I believe that the following Employer contributions are sufficient to meet the funding requirements of the Sub-fund:

- 22.5% of Salaries; plus
- Where a member elects to receive a lifetime pension on retirement, an additional contribution to be determined by the actuary to maintain the funding level at the Trustee's targeted level.

Accordingly, I recommend that the Employer contribute at the rates set out above until at least 30 June 2025 in respect of defined benefit members.

I continue to recommend that the Employer contribute at the required amounts to meet any Superannuation Guarantee, contractual or any other obligations in respect of accumulation liabilities in the Sub-fund.

I further recommend that the VBI position continue to be monitored quarterly throughout the following investigation period, with the results reviewed by the Actuary, to ensure that these contribution recommendations remain appropriate. I also recommend that the Trustee obtain a letter from the Actuary in the intervening years between regular actuarial investigations which reports to the Trustee on the vested benefit position of the Sub-fund.

Section 4: Other Matters Involving Actuarial Oversight

Investments

The net market value of assets is based on the asset values declared by the respective external fund managers at 30 June 2022 which in turn are based on the market value of the assets after allowing for realisation costs.

I note that Professional Standard 404 defines the 'Fair Value' of assets as the value of assets before the deduction of transaction costs. Based on the type of assets held by the Fund I do not expect realisation costs to be material. I have therefore used the net market value of assets for the purpose of this investigation.

Investment Strategy

The assets of the Sub-fund are invested in the Fund's Capital Stable investment option through the Hostplus Pooled Superannuation Trust.

The return objective of the Capital Stable option is:

- Accumulation: to outperform inflation (CPI) by 2.0% p.a. on average over 20 year periods.
- Pension: to outperform CPI by 3.0% p.a. on average over 20 year periods.

The Capital Stable option provides a reasonable level of short-term security with the potential for some capital growth in the long term.

The strategic asset allocation of the Capital Stable option as 30 June 2022 is shown in the below table:

Asset Class	Allocation
Australian Shares	8%
International Shares	11%
Property	11%
Private Equity	1%
Infrastructure	11%
Credit	6%
Alternatives	6%
Diversified Fixed Interest	25%
Cash	21%
Total Growth Assets	**38%**
Total Defensive Assets	**62%**

In my opinion an investment strategy as described above is suitable for a Sub-fund of this type having regard to its financial position, the underlying liabilities and the capacity of the respective employers to meet any funding shortfall.

Unit Pricing and Investment Reserving Policy

The assets backing the Sub-fund's liabilities are not subject to member investment choice. The net rate of return for the Capital Stable option is credited to member accounts. In my view, this remains appropriate.

Investment reserves are not held as there is no smoothing of investment earnings in the setting of unit prices. This remains appropriate.

Liquidity

I understand that the Fund's Capital Stable option currently targets an illiquid allocation of 35% of assets. As at 30 June 2022, the value of the Sub-fund's defined benefit assets represents less than 1% of the total assets held by the Fund, and an immaterial proportion of the total assets under management by the Hostplus Pooled Superannuation Trust. As such, in my opinion the Fund has sufficient liquidity to meet payments from regular cashflows.

Shortfall Limit

The Trustee currently has an approved shortfall limit of 99%.

Based on the Sub-fund's benefit design and its target asset allocation described above, in my opinion the 99% shortfall limit remains reasonable for the Sub-fund.

Insurance

Death and Disablement Benefits

At the investigation date, the Sub-fund has death, and total and permanent disablement insurance with MLC Limited in respect of the future service portion of their death and disablement benefits.

The formula used to calculate the level of insurance is:

Death/TPD Benefit *less* Member's Reserve

Where Member's Reserve is as outlined in Section 5 of this report.

Salary Continuance Benefits

The Sub-fund also offers a Salary Continuance benefit for members who become totally and temporarily disabled (TTD).

The benefit payable on TTD is:

- 75% of the member's annual salary as at the date of disablement; and
- Payable for a maximum of 2 years, or until the member recovers, is classified as TPD, or reaches age 65, whichever is earlier.

The benefit is fully covered by the insurance policy with MLC Limited.

Recommendations

I confirm that the amount of insurance in place covers all additional benefits payable on death/TPD and TTD. On this basis, I consider the current insurance arrangements adequate and recommend that the current arrangements be maintained.

Section 5: Additional Information

Risks

The table below summarises the main risks to the financial position of the Fund.

Risk	Approach taken to risk
Investment returns on the existing assets could be insufficient to meet the Trustee's funding objectives	The Trustee takes advice from the Fund Actuary on possible assumptions for future investment returns. In setting the future contributions, the Fund Actuary considers the effect on the future financial position if investment returns are less than expected. The Trustee is able to agree further contributions with the Employer at subsequent valuations if future returns prove insufficient.
Salary increases could be different from that assumed which could result in higher liabilities	The Trustee invests in assets that are expected to be correlated to future inflation in the longer term (sometimes referred to as "real" assets). This means that, over the longer term, such assets are expected to keep pace with inflation. Such assets include equities, property and index-linked bonds.
Falls in asset values might not be matched by similar falls in the value of the Sub-fund's liabilities	The Trustee considers this risk when determining the Sub-fund's investment strategy. It consults with the Employer in order to understand the Employer's appetite for bearing this risk and takes advice on the Employer's ability to make good any shortfall that may arise. To the extent that such falls in asset values result in deficits at future valuations, the Employer would be required to agree a recovery plan with the Trustee to restore full funding over a period of time.
Liquid assets are not sufficient to meet cashflow requirements of the Sub-fund when they fall due	The assets of the Fund are invested in the Hostplus Pooled Superannuation Trust. As such, the total assets under management are sufficient to cover any potential cashflows of the Sub-fund.
Sub-fund members live longer than assumed	The Trustee adopted mortality assumptions that it regards as prudent estimates of the life expectancy of members so that higher reserves are targeted in respect of the risk than are expected to be necessary.
Options exercised by members could lead to increases in the Sub-fund's liabilities	The lifetime pension available to active members on retirement is of significantly higher value than the lump sum option based on the current actuarial assumptions. The Trustee is aware of this source of potential strain on the financial position of the Sub-fund. The Fund Actuary has recommended that the Employer make additional contributions to the Sub-fund when members elect to receive benefits in the form of a lifetime pension on retirement and that election would result in a reduction of the funding level for remaining members. This has the aim of maintaining the financial position of the Sub-fund, without requiring the Employer to make additional contributions in respect of elections that may not eventuate.
Legislative changes could lead to increases in the Sub-fund's liabilities	The Trustee takes legal and actuarial advice on changes in legislation and consults with the Employer or Unions, where relevant.

Economic risk | Demographic risk | Legal risk

Benefits Summary

Definitions

Accumulation accounts	:	Any voluntary contributions by the Member are accumulated at the Plan Earning Rate in this account. The balance of the Additional Voluntary Contribution Account will be payable in addition to any benefit payable to the Member on ceasing employment.
Early Retiring Age	:	Age 55
Final Average Salary (FAS)	:	The average of the salaries over the last three years.
Member contributions	:	Category 1 Members pay compulsory contributions at the rate of 4%. Category 2 Members pay compulsory contributions at the rate of 5.7%. These contributions (but deemed to be at the rate of 4% for Category 2 Members), and any previously made to the BHP Billiton Superannuation Fund, are accumulated with interest at the Plan Earning Rate to form the Member's Accumulated Contributions.
Normal Retiring Age	:	Age 65
Potential FAS	:	FAS calculated as if the Member continued as an employee until their Normal Retiring Age and the Member's salary continued unchanged

Member's Reserve

The Member's Reserve is the greater of:

- 2.5 x Member's Accumulated Contributions + 3% x FAS x Membership after 1 March 1987,
- 20% x FAS x Membership x F,

where F is set out in the table below:

Exact age of Member at date of termination of Employment	"F"
45	.800
46	.820
47	.840
48	.860
49	.880
50	.900
51	.920
52	.940
53	.960
54	.980
55 or over	1.000

and where Membership is adjusted for periods of part-time service and is subject to a maximum of 36 years.

Benefits

Retirement Benefit

A Member who retires at or after their Early Retiring Age is entitled to a lump sum benefit equal to their Member's Reserve. Alternatively, the Member may elect to receive a pension, where the amount of any such pension will be:

- If the Member is at their Normal Retiring Age:

$$\frac{1}{54} \times FAS \times Membership$$

where Membership is adjusted for periods of part-time service and is subject to a maximum of 36 years.

- If the Member is older than their Normal Retiring Age the Trustee will determine the amount of the pension after obtaining the Actuary's advice.
- If the Member has not reached their Normal Retiring Age their pension will be:

$$\frac{\text{Member's Reserve}}{\text{Commutation Factor}}$$

where Commutation Factor is set out in the table below:

Exact age of Member at date of termination of Employment	Commutation Factor
55	13.80
56	13.50
57	13.20
58	12.90
59	12.60
60	12.30
61	12.00
62	11.70
63	11.40
64	11.10
65	10.80

Members may also choose to take their benefit partly as a lump sum and the remainder as a pension.

Death Benefit

In the event that a Member dies before their Normal Retiring Age, the following benefit will be payable:

20% x Potential FAS x (Future membership to Normal Retiring Age)
+ 20% x Potential FAS x Membership

where Membership is adjusted for periods of part-time service and is subject to a maximum of 36 years.

Total and Permanent Disablement (TPD) Benefit

A Member who becomes permanently disabled before their Normal Retiring Age will be paid a benefit equal to the benefit that would have been payable if the Member had died on their last date of employment.

Total and Temporary Disablement (TTD) Benefit

A Member who becomes temporarily disabled before their Normal Retiring Age will be paid a monthly income benefit of one-twelfth of 75% of their annual salary as at the date of disablement (less any workers compensation payments received by the member). The TTD benefit is payable for a maximum of two years or until the member recovers, is classified as TPD or reaches retirement age, whichever is the earlier.

Death of a Pensioner

If a pensioner dies, a reversionary pension may be payable to their spouse or children. The total amount of the pension payable depends on the number of recipients, and is calculated as:

- Pension payable prior to Death multiplied by the percentage based on the number of recipients as follows:

Number of Recipients	%
1	50%
2	66 2/3%
3	83 1/3%
4 or more	100%

A lump sum of 50% of the pension is also payable to the pensioner's spouse.

Pensions payable to a child

A pension is payable to a child while under the age of 18 years or, in the opinion of the Trustee, a full-time student and remains engaged in a course of study at a school or tertiary institution.

Resignation Benefit

A Member who resigns and is not entitled to any other benefit will be paid their Member's Reserve.

Pension Increases

Lifetime pensions paid to former members of the Sub-fund are non-indexed.

The Trustee has the discretion to increase the pension payable to a dependent child once a year by the lesser of the increase in the Consumer Price Index over the preceding year and 5%.

Summary of Data Used in this Investigation

Membership Data

Maritime Super has responsibility for maintaining member records, payment of benefits and other administrative tasks of the Sub-fund.

Maritime Super provided data in respect of members of the Sub-fund as at 30 June 2022, including members who had left the Sub-fund since the last investigation date.

I have checked a sample of the membership data for internal consistency and am satisfied as to the accuracy of this sample.

The following tables show a summary of the membership as at 30 June 2022 and 30 June 2020:

Active Members

	30 June 2022	30 June 2020
Number of Members	6	8
Average Age	56.3	54.4
Average Service	33.6	29.2
Total Salaries	$1,619,000	$1,994,000
Average Salary	$270,000	$249,000

Pensioners

	30 June 2022	30 June 2020
Number of Members	1	1
Average Age	66.7	64.7
Total Pensions	$133,000	$133,000
Average Pension	$133,000	$133,000

Assets Data

We have been provided with audited accounts for the Fund as at 30 June 2022. The accounts were audited by Ernst & Young.

In addition to the Fund's accounts, I have also been provided with a breakdown of the Fund's assets into each of the Fund's various Sub-Funds which I understand has been subject to audit review. I have relied on this breakdown in determining the net asset relating to defined benefits in the Sub-fund.

The net assets exclude any amount held to meet the Operational Risk Financial Requirement.

I am satisfied that there are no material data discrepancies and that the data provided is suitable for the purpose of this investigation. I have relied on the information provided for the purposes of this investigation. Although I have no reason to doubt the quality of asset information provided, the results of this investigation are dependent on the quality of the asset information. Any changes to the asset values above will have an impact on the outcome of the investigation and any resulting recommendations.

Funding Method, Assumptions and Experience

Funding Method

In this valuation, I have determined the level of employer contributions required by projecting members' expected future benefits, and the expected level of future value of assets on the basis of selected assumptions, and compared its levels against relevant funding objectives. If the funding objectives are not expected to be achieved, alternative employer contributions were determined in order to achieve the funding objectives.

This funding method is suitable for this valuation as it takes into account the expected growth of the Sub-fund's assets and liability profile in the short-term in determining the employer contributions.

In producing my recommendations, I have also taken into account the pace of funding required to maintain certain short term solvency measures, in particular, that legislation requires the VBI to be above 100% and that the Trustee has a funding target of 110% for the Sub-fund.

This is consistent with the method used in the previous investigation. In my view this method remains appropriate.

Assumptions

In order to determine the value of expected future benefits and Sub-fund assets, it is necessary to make assumptions regarding the timing and amount of future benefit payments, expenses and contributions. In doing so it is important to examine the experience of the Sub-fund since the last valuation to see whether the previous assumptions have been borne out in practice.

While each of the assumptions used is normally the actuary’s best estimate of future experience, in practice, the actual experience in any (short) period can always be expected to differ from the assumptions to some extent. However, it is intended that over longer periods, they will provide a reasonable estimate of the likely future experience and financial position of the Sub-fund.

In the short-term, as the actual experience emerges differently to the experience implied by the assumptions, the financial position of the Sub-fund will also vary from that expected. However, adjustments to Employer contribution rates, if any, can be made to reflect these differences in the following actuarial investigation.

Financial Assumptions

Valuation assumptions can be broadly divided into demographic assumptions, which relate to characteristics of current and future members of the Sub-fund, and financial assumptions, which are assumptions other than demographic assumptions. The following sections first consider the financial assumptions that are to be adopted for this valuation.

Investment Returns

The rate of return on the Sub-fund's Assets (net of tax where applicable and investment expenses that are deducted from the investment return) from 30 June 2020 to 30 June 2022 are set out in the table below:

Year Ending	Net Investment Return[1]	Gross Investment Return[1]
30 June 2021	9.5%	10.8%
30 June 2022	-0.8%	-0.9%
Overall	4.2% p.a.	4.8% p.a.

Over the two-year period to 30 June 2022 the assets held in the Sub-fund in respect of active members returned 4.2% p.a. which is higher than the rate assumed in the previous investigation of 2.4% p.a. (net of tax). The assets held in respect of pensioners returned 4.8% p.a. over the same period, which is higher than the assumed rate in the previous investigation of 3.6% p.a. In isolation, this has had a positive impact on the financial position of the Sub-fund.

While short-term differences between actual investment return experience and the actuarial assumption can affect the long-term financial position of the Sub-fund as measured by the actuarial investigation, the assumption used in the investigation must be based on long-term expectations since the investigation involves valuing payments in the future.

Based on models of future investment returns developed by WTW, the current expectations of investment returns over the remaining lifetime of the Sub-fund, net of taxation (where applicable) and investment management expenses and the current strategic asset allocation of the Sub-fund is 4.0% p.a. in respect of active members and 5.1% p.a. in respect of pensioners. On this basis, I have assumed an investment earning rate of 4.0% p.a. for assets in respect of active members, which is higher than the assumed long-term earning rate used for the previous investigation of 2.4% p.a. Similarly, I have assumed an investment earning rate of 5.1% p.a. for assets in respect of pensioners, which is higher than the assumed long-term earning rate used for the previous investigation of 3.6% p.a.

Salary Increases

The average salary increases during the investigation period for the members remaining in the Sub-fund as at 30 June 2022 was 3.0% p.a. This is higher than the salary increases assumption adopted for the previous actuarial investigation of 2.0% p.a. This has had a negative impact on the financial position of the Sub-fund.

The Employer has confirmed that it expects salary increases for the remaining members to be based on price inflation, with additional expected increases provided by the Employer on a per member basis. The increase in CPI over the year to 30 June 2022 was 6.1% (applied for the 2022/23 salary increase), and for the 2023/24 financial year a CPI increase of 4.6% has been assumed based on expectations of price increases based on modelling by WTW. I have therefore adopted this rate for the purpose of this investigation.

---

[1] Based on the returns of the previous Maritime Conservative option from 30 June 2020 to 30 April 2021, and the Capital Stable option thereafter,

Pension Increases

The lifetime pensions paid by the Sub-fund are non-indexed.

The Trust Deed allows the Trustee to apply discretionary pension increases to pensions in payment to dependent children. No such pensions are currently in payment and no allowance for future discretionary increases has been made in the valuation.

Administration Expenses and Insurance Costs

For this investigation, I assumed:

- General administration expenses of 0.215% p.a. of assets, in line with the administration expenses levied against all members of the Fund. This is lower than the rate of 0.28% p.a. of assets allowed for in the previous investigation.
- An allowance for insurance premiums of 1.9% of Salaries, based on the expected costs of such premiums, having regard to the premium rates charged to members of the Fund and the occupation rating of Sub-fund members. This is higher than the rate of 1.6% of Salaries allowed for in the previous investigation.

The long-term rate of expenses of 0.215% p.a. of net assets in the Sub-fund has been taken into account when calculating the present value of pension liabilities, with the value of future expenses included in liability amounts.

Demographic Assumptions

Rates at which Employee Members Cease Service

I have analysed the rates at which employee members cease service during the intervaluation period from 30 June 2020 to 30 June 2022. There were 2 exits, compared to the 2 expected.

As I have been informed by the Employer that all remaining active members of the Sub-fund will be retrenched and terminate service as at 31 March 2024. I have assumed all members remain in the Sub-fund until 31 March 2024 with no exits prior to that date.

Pension Take-up Assumption

On retirement, members have the option of receiving the retirement benefit in the form of a lump sum or lifetime pension. I have assumed that all members over the age of 55 take 50% of benefits in the form of a lifetime pension with the remaining 50% taken as a lump sum.

I note that due to the small number of active members remaining in the Sub-fund and the significant disparity between the value of the lifetime pension and lump sum options, the experience of a single exit in respect of this assumption may generate a significant gain or strain on the Sub-fund's financial position. For this reason, I have recommended additional contributions are determined by the actuary where a member elects to receive retirement benefits in the form of a lifetime pension and that election would result in a reduction of the funding level for remaining members.

Pensioner Mortality

There were no pensioner deaths over the intervaluation period.

As the number of pensioners in the Sub-fund is very small, it is difficult to draw conclusive information from completing a demographic analysis.

For this valuation I have retained the same mortality assumptions as used in the previous investigation.

The mortality assumptions are based on the mortality studies in respect of the population of Australia. An adjustment to these rates has been applied to reflect that pensioners in the Sub-fund are likely to exhibit lighter mortality rates than the general Australian population. Additionally, allowances have been made for future mortality improvements.

Assumption	30 June 2022	30 June 2020
Base Table	70% of ALT 2015-17	70% of ALT 2015-17
Future Mortality Improvements	2% p.a. from 1 July 2016	2% p.a. from 1 July 2016

Dependant Assumptions

Actual data is collected regarding lifetime pensioners’ marital status and spouse date of birth.

No allowance is made for pensions that may be payable to children on the death of a lifetime pensioner, however this could present an additional funding strain if such eligible children exist upon the death of a pensioner.

Statutory Statements Under SPS 160

Maritime Super, Trident Sub-Fund of the Maritime Super Division

Actuarial Investigation as at 30 June 2022

The statements required under paragraphs 23(a) to (i) of SPS 160 for interim and regular investigations are set out below:

A. Sub-fund Assets

At 30 June 2022 the net market value of assets of the Sub-fund, excluding any amount held to meet the Operational Risk Financial Requirement (ORFR), was $15,520,000.

B. Projection of Defined Benefit Vested Benefit Index

Based on the actuarial assumptions and the recommended contributions set out in G below, I project that the likely future financial position of the Sub-fund over the three years following the investigation date will be as follows:

Date	Defined Benefit Vested Benefits Index
30 June 2022	121.0%
30 June 2023	117.0%
30 June 2024	130.5%
30 June 2025	131.9%

C. Accrued Benefits

The value of the accrued liabilities of all members as at 30 June 2022 was $13,450,000.

In my opinion, the value of the assets of the Sub-fund at 30 June 2022 was adequate to meet the liabilities in respect of accrued benefits in the Sub-fund (measured as the present value of members' accrued entitlements using the actuarial assumptions).

This assessment has been made using assumptions and a valuation method which I regard as reasonable.

D. Vested Benefits

The value of the vested benefits of all members as at 30 June 2022 was $12,829,000.

In my opinion, the financial position of the Sub-fund is not unsatisfactory and the shortfall limit does not need to be reviewed at this time.

E. Minimum benefits

The value of the liabilities in respect of the minimum benefits of members as at 30 June 2022 was $7,941,000 which is less than the value of assets held at that date.

F. Funding and Solvency Certificates

Funding and Solvency Certificates applicable to the Sub-fund covering the period from 30 June 2020 to 30 June 2022 required by the Superannuation Industry (Supervision) Act have been provided. In my opinion, I am likely to be able to provide Funding and Solvency Certificates for the Sub-fund covering the period from 30 June 2022 to 30 June 2025.

G. Employer Contributions

The report on the actuarial investigation of the Sub-fund at 30 June 2022 recommends the following Employer contributions until at least 30 June 2025:

- 22.5% of Salaries; plus
- Where a member elects to receive a lifetime pension on retirement, an additional contribution to be determined by the actuary to maintain the funding level at the Trustee's targeted level.

H. Payment of Pensions

In my opinion, at the valuation date, there is a high degree of probability that the Sub-fund will be able to pay the pensions as required under the Sub-fund's governing rules.

Pre-July 1998 Funding Credit

No pre-July 1998 funding credits have been granted to the Sub-fund.

Chris Porter
Fellow of the Institute of Actuaries of Australia

6 December 2022

ABN 45 002 415 349 AFSL 229921
Level 4, 555 Bourke Street, Melbourne VIC 3000

DO: RC | TR: EC | CR/ER: CJP