Deloitte.

APA Group Superannuation Plan

Actuarial Investigation as at 31 December 2022

Report date: 28 June 2023

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Attention: Andrew Nunn

28 June 2023

Our Ref: MLC00057

Dear Trustee,

APA Group Superannuation Plan - Actuarial investigation as at 31 December 2022

We are pleased to present the actuarial investigation of APA Group Superannuation Plan ("the Plan"), a sub-plan in the Plum Division of the MLC Super Fund ("the Fund"), as at 31 December 2022 to NULIS Nominees (Australia) Ltd ("the Trustee").

Please call Diane Somerville on (02) 9322 7636 if you would like to discuss.

Yours sincerely,

Diane Somerville
Fellow of the Institute of Actuaries of Australia

Andrew Boal
Fellow of the Institute of Actuaries of Australia

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1 Executive summary

1.1 Introduction

NULIS Nominees (Australia) Ltd has requested that Deloitte Actuaries & Consultants Limited ("Deloitte") conduct an actuarial investigation of the APA Group Superannuation Plan ("the Plan"). The Plan is a sub-plan in the Plum Division of the MLC Super Fund ("the Fund"). This report presents the results of the actuarial investigation of the Plan as at 31 December 2022.

The purpose of this report is to:

- Examine the sufficiency of the assets in relation to members' accrued benefit entitlements at the valuation date;
- Determine the employer contribution rate required after the valuation date;
- Satisfy the requirements of the Superannuation Industry (Supervision) Act and Superannuation Prudential Standard ("SPS") 160; and
- Comment on any other matter considered relevant or as required under relevant Professional Standards of the Institute of Actuaries of Australia or as otherwise deemed appropriate.

This report should not be used for any other purpose without the consent of the actuary.

This report has been prepared by Diane Somerville and Andrew Boal, of Deloitte Actuaries & Consultants Limited, in accordance with the Professional Standards and Practice Guidelines (in particular Professional Standard 400) issued by the Institute of Actuaries of Australia.

1.2 Financial position

Superannuation Prudential Standard (SPS) 160 requires statements to be made in respect of two measures of the financial position of the Plan, these measures being related to the current and projected "vested benefits" and the present value of "accrued benefits" of members.

This investigation is concerned primarily with the valuation of the Plan's assets and liabilities in respect of members' defined benefits only. The value of accumulation member liabilities is directly related to the value of the underlying assets and is not exposed to the same funding risks as defined benefit liabilities. Therefore, the value of accumulation members' assets and liabilities, and the accumulation benefits of defined benefit members where the members have an option to select how such monies are invested, are excluded from this investigation.

For reporting purposes these measures are calculated for the Plan as a whole. However, where there are different provisions applying in respect of sections of the Plan, it is also appropriate to advise on the measures as they apply to these separate sections. In all cases, we have excluded the assets of the self-insurance reserve when considering the financial position ratios for the Plan.

In considering the measures of the Plan's financial position below, we have considered coverage of benefits for defined benefits members, excluding accumulation benefits in respect of defined benefit members where members do not have investment choice. The value of accumulation liabilities is directly related to the value of the underlying assets and is not exposed to the same funding risks as defined benefit liabilities. In considering the financial position it is therefore appropriate to look at the funding levels for defined benefits alone.

Vested benefits

"Vested Benefits" are the total of the benefits that would be payable to members if they all left the Plan on the balance date. As at the valuation date, the net market value of the assets of the defined benefit sections of the Plan exceeded the vested benefits of defined benefit members. The ratio of the net market value of the Plan's defined benefit assets to vested benefits of defined benefit members (the "Vested Benefits Index") was 96.9% at 31 December 2022.

Present value of accrued benefits

The present value of accrued benefits is the actuarial present value (using the assumptions and methodology detailed in this report) of the expected future benefits payable from the Plan to the current members and their dependants attributable to Plan membership completed up to the date of the actuarial investigation. A minimum of vested benefits is applied to the present value of accrued benefits at an individual member level.

The ratio of the net market value of the Plan's defined benefit assets to the present value of the accrued benefits of defined benefit members (the "Accrued Benefits Index") was 93.2% at 31 December 2022.

Funding levels for defined benefits

In respect of the defined benefit liabilities (including pension liabilities), the funding ratios at 31 December 2022 are shown in the table below:

Plan	Defined Benefit Assets ($'000)	Defined Benefit Liabilities ($'000)	Funding Ratio
Vested Benefits	125,712.9	129,674.4	96.9%
Value of Accrued Benefits	125,712.9	134,821.8*	93.2%

* Minimum of vested benefits at an individual member level have been applied

Therefore, the assets backing defined benefits were not sufficient to meet both the total vested benefits and the total of the present value of accrued benefits for defined benefit members at the valuation date.

We have also estimated the funding position in respect of the different sections of the Plan at the valuation date as follows:

APA Russell DB

DB members only	Defined Benefit Assets ($'000)	Defined Benefit Liabilities ($'000)	Funding Ratio
Vested Benefits	17,650.3	15,252.7	115.7%
Value of Accrued Benefits	17,650.3	15,428.5*	114.4%

* Minimum of vested benefits at an individual member level have been applied

APA APT_AM DB

DB members only	Defined Benefit Assets ($'000)	Defined Benefit Liabilities ($'000)	Funding Ratio
Vested Benefits	71,555.4	73,424.2	97.5%
Value of Accrued Benefits	71,555.4	75,309.8*	95.0%

* Minimum of vested benefits at an individual member level have been applied

APA Gasnet DB

DB members only	Defined Benefit Assets ($'000)	Defined Benefit Liabilities ($'000)	Funding Ratio
Vested Benefits	36,507.2	40,997.5	89.0%
Value of Accrued Benefits	36,507.2	44,083.5*	82.8%

* Minimum of vested benefits at an individual member level have been applied

The above results confirm that the Plan as a whole was in an unsatisfactory financial position at the valuation date. Also, the APA APT_AM DB and APA Gasnet DB sections of the Plan were in an unsatisfactory financial position at the valuation date. The assets of the APA Russell DB section were sufficient to meet both the total vested benefits and the total present value of the accrued benefits of that section at the valuation date.

Events since 31 December 2022

In the period since 31 December 2022, investment markets have been volatile with increases in markets over January 2023 followed by fluctuations up and down over the following months. Based on information provided by the Plan's administrator, the Plan's funding ratio for Vested Benefits (the Vested Benefits Index or VBI) slightly improved up to 31 March 2023, as follows:

	Vested Benefits Index^ 31 March 2023
APA Russell DB	114.6%
APA APT_AM DB	98.4%
APA Gasnet DB	91.5%
Total Defined Benefits	**98.3%**

^ Note: This calculation has been updated since the March 2023 quarterly financial position update for the Trustee, to reflect the latest pensioner assumptions, including allowance for the known pension increase of 7% effective 1 July 2023.

The increase in the VBI is primarily due to the increase in investment markets since 31 December 2022. Overall the defined benefit section of the Plan experienced a return of 2.8% over the period to 31 March 2023.

This shows that the Plan remained in an unsatisfactory financial position as at 31 March 2023 (allowing for the updated pensioner assumptions as reflected in this report).

Accordingly, we have addressed the requirements of paragraph 31 of Superannuation Prudential Standard 160 (Defined Benefit Matters) ("SPS 160") as part of this report, and our recommended employer contributions are designed to return the Plan, and each defined benefits section, to a satisfactory financial position (and to then maintain that position) over the period to 31 December 2025. Following receipt of this report, the Trustee should develop and approve a restoration plan in this regard.

We have considered the impacts of investment market movements since 31 December 2022 to the extent possible when considering our contribution recommendations. This is discussed further later in the report.

The financial position of the defined benefits section of the Plan is sensitive both to financial experience and changes in the Plan's demographics over time. We therefore recommend continuation of quarterly reviews of the vested benefit coverage.

Superannuation guarantee and technical solvency

The Employer's Superannuation Guarantee obligation is met in full for all members by the minimum benefits provided under the Plan. The required Benefit Certificate was issued on 25 June 2019 with effect from 1 April 2019 for a period of 5 years.

The current Funding and Solvency Certificate (issued on 5 August 2020) is effective from 1 July 2020 for a period of 5 years. The purpose of the Funding and Solvency Certificate is to specify the required Employer contributions needed to fund the minimum requisite benefits used to offset the Superannuation Guarantee Charge. Pursuant to the Superannuation Industry (Supervision) Act ("the SIS Act"), a superannuation plan is "technically solvent" if the net value of its assets exceeds the minimum Superannuation Guarantee benefits.

At 31 December 2022, the Plan was solvent on this basis and, based on the assumptions in relation to minimum requisite benefits and subject to the payment of Employer contributions as recommended in this report, we expect that an actuary will be able to certify the solvency of the Plan at all times during the three years to 31 December 2025.

Investments

The Trustee has developed formal objectives and a policy for the investment of the Plan's assets. These objectives and policy are summarised in the Product Disclosure Statement and other information available to employers and members.

Further, the Trustee has agreed the investment policy in respect of those assets which are designated to support the defined benefit liabilities of the Plan.

We have reviewed the Plan's investment policy in light of the funding method adopted and the nature of the Plan's liabilities. In our opinion the Plan's current investment policy remains appropriate, provided that the Employer recognises and accepts the potential variability in returns and the resulting impact on contribution requirements.

Regulatory requirements

Paragraph 23 of SPS 160 requires certain information to be included in actuarial reports. A summary of this information is included in Appendix C to this report. The Trustee may choose to provide this summary to any members who request details of the actuarial valuation, although members are entitled to request a copy of the full report.

We understand that the Trustee has set the shortfall limit at a level of 97% for the Plan. We consider that this shortfall limit remains appropriate given the current and target asset allocation for the Plan and the nature of the liabilities.

We advise that the VBI was below the shortfall limit as at 31 December 2022 for the Plan as a whole and also for the APA Gasnet DB section. Therefore, in accordance with the SPS 160 requirements, the Trustee should develop and approve a restoration plan following receipt of this report.

There is no reason to change the shortfall limit in our opinion and hence we recommend that the Trustee continue to apply a shortfall limit of 97% for the Plan.

Self-insurance is provided in the Plan in respect of CA and CB members in the APA APT_AM DB and APA Gasnet DB sections due to the difference between the Plan's definition of "disability" and the insurer's definition of "total and permanent disablement (TPD)". This relates to self-insurance which was transferred to the Plan as part of the successor fund transfers from Equipsuper. Categories CA and CB are closed to new members and therefore the self-insured arrangement only applies to these closed membership groups.

SPS 160 sets out requirements on the Trustee for annual attestation of the validity (or otherwise) of continuing self-insurance.

We understand that to the extent possible, all death and disablement benefits of the Plan are externally insured. This insurance substantially mitigates the risk of having to rely upon the self-insurance reserve, although MLC Limited has confirmed that the disablement definition grandfathered in the Participation Agreement is unable to be insured.

In this report on the actuarial investigation of the Plan, we recommend that the Trustee hold a self-insurance reserve of at least $114,000 for the Plan as at 31 December 2022. At 31 December 2022, the self-insurance reserve held within the Plan was $296,732, which satisfies the above recommendation.

As the self-insurance within the Plan relates to a definitional difference in disability, we believe that the risk of a catastrophe causing a significant strain on the funding position of the Plan is very small. Therefore, we believe that the current self-insurance arrangements in the Plan are sustainable without the Trustee having to investigate the potential purchase of external catastrophe insurance.

The self-insured risk being covered within the Plan is relatively low, and therefore the experience of one or more disablement benefit claims not covered by TPD insurance which total more than $100,000 in excess of the corresponding members' vested benefits would warrant an interim review of the self-insurance arrangements before the next triennial actuarial investigation to confirm that there are no material impacts on the funding position of the Plan. Further, we recommend that the adequacy of the self-insurance reserve be reviewed by the actuary annually.

In conclusion, we believe that the self-insurance arrangements continue to be fully funded and in the best interests of beneficiaries.

Insurance

The valuation shows that the current insurance arrangements in respect of death and total and permanent disablement benefits are adequate for the defined benefits section of the Plan.

Therefore, we recommend that the current basis for external insurance for defined benefit members be retained.

1.3 Recommendations

Recommended Employer Contributions

Based on the approach and assumptions set out in this report, we recommend that the Employer continue the current contribution rates until 30 June 2023, and then contribute at the revised contribution rates with effect from 1 July 2023. That is, we recommend that the Employer contribute to the Plan at least at the following rates until completion of the report on the next actuarial investigation:

- APA Russell DB: 8.0% p.a. of defined benefit members' salaries to 30 June 2023, and 6.0% p.a. of defined benefit members' salaries from 1 July 2023; plus
- APA APT_AM DB: 11.0% p.a. of defined benefit members' salaries to 30 June 2023, and at 23.8% p.a. of defined benefit members' salaries plus $100,000 per month from 1 July 2023 to the later of

31 December 2025 and the restoration of the APA APT_AM DB section to a satisfactory financial position, and thereafter at 23.8% p.a. of defined benefit members' salaries (or an alternative contribution basis which the actuary advises is broadly equivalent to this contribution rate, having consideration of SPS 160 requirements); plus

- APA Gasnet DB: 13.2% p.a. of defined benefit members' salaries to 30 June 2023, and at 27.1% p.a. of defined benefit members' salaries plus $150,000 per month from 1 July 2023 to the later of 31 December 2025 and the restoration of the APA Gasnet DB section to a satisfactory financial position, and thereafter at 27.1% p.a. of defined benefit members' salaries (or an alternative contribution basis which the actuary advises is broadly equivalent to this contribution rate, having consideration of SPS 160 requirements); plus
- Member contributions which are paid by the employer under "salary sacrifice" or "deemed" arrangements.

The estimated contributions implied by the above contribution recommendations, based on salary amounts as at 31 March 2023, are shown in section 7.2.5 of this report.

We also recommend that the Trustee obtain actuarial advice on an annual basis to confirm that the recommended additional contributions for the APA APT_AM DB and APA Gasnet DB sections remain adequate for the purposes of returning those sections to a satisfactory financial position by 31 December 2025, as part of monitoring the restoration plan for the Plan.

We have also completed a number of VBI projections in section 7 to illustrate the sensitivity of the VBI to investment markets and salary increases.

Next valuation

The next valuation is required to be held no later than 31 December 2025, given that the Trustee has obtained an exemption for the Plan from APRA from the requirements of paragraph 14(d) of SPS 160 in relation to the frequency of actuarial investigations for funds paying pensions.

We also recommend continuation of current quarterly vested benefit reviews.

Reliances and Limitations

We have relied on the accuracy and completeness of all data and other information (qualitative, quantitative, written and verbal) provided to us for the purpose of this report. We have not independently verified or audited the data but we have reviewed it for general reasonableness and consistency. It should be noted that if any data or other information is inaccurate or incomplete, our advice may need to be revised.

This report has been prepared for the sole use of the Trustee and Employer for the purpose stated earlier. No other use of, or reference to, this report should be made without prior written consent from Deloitte, nor should the whole or part of this report be disclosed to any other person.

The report should be considered as a whole. Members of Deloitte staff are available to answer any queries, and the reader should seek that advice before drawing conclusions on any issue in doubt.

Diane Somerville	Andrew Boal
Fellow of the Institute of Actuaries of Australia	Fellow of the Institute of Actuaries of Australia

28 June 2023

2 Background

2.1 History

The Plan commenced as a sub-plan within the Plum Superannuation Fund effective 1 December 2014, following successor fund transfers from Russell SuperSolution Master Trust on 1 December 2014 and Equipsuper Superannuation Fund ("Equipsuper") on 8 December 2014. A second tranche was transferred on a successor fund basis from Equipsuper in May 2016. Subsequently the Plum Superannuation Fund was transferred to the MLC Super Fund on a successor fund basis on 1 July 2016, and the Plan became a sub-plan in the Plum Division of the MLC Super Fund ("the Fund").

The defined benefits sections of the Plan are closed to new employees and all new employees joining the Plan are provided with accumulation benefits.

The Plan has the following defined benefit sections:

- APA Russell DB section: assets and membership in respect of the defined benefit section of the APA Employer Division in the Russell SuperSolution Master Trust which were transferred to the Plan on a successor fund basis
- APA APT_AM DB section: assets and membership in respect of the APA Group Employer Benefit Account in Equipsuper which were transferred to the Plan on a successor fund basis
- APA Gasnet DB section: assets and membership in respect of the APA Gasnet Employer Benefit Account in Equipsuper which were transferred to the Plan on a successor fund basis

As a sub-plan in the Plum Division of the MLC Super Fund, the Plan is a resident regulated fund and a complying fund for the purposes of the Superannuation Industry (Supervision) Act 1993 (the SIS Act). The Plan therefore qualifies for concessional tax treatment.

2.2 Governing documents

The MLC Super Fund was established under a Trust Deed dated 9 May 2016 (as amended from time to time). The members and assets of the Plum Superannuation Fund were transferred into the MLC Super Fund on a successor fund basis from 1 July 2016. The operation of the Plan is governed by the Trust Deed as subsequently amended and by the Participation Agreement dated 15 December 2020 (as amended) between the Principal Employer, Associated Employers and NULIS Nominees (Australia) Limited as the trustee of the MLC Super Fund.

A summary of the main benefit provisions is included as Appendix A to this report.

Clause 3.2.3 of the Participation Agreement states that each Employer agrees to make all contributions:

a) in a timely manner to enable the proper administration of the Sub-plan in accordance with the Relevant Law;

b) in respect of Accumulation Members, in accordance with Schedule 2 of the Participation Agreement or as otherwise agreed between the Trustee and each Employer; and

c) in respect of Defined Benefit Members, in accordance with Schedule 2 of the Participation Agreement.

2.3 Purpose of the investigation

Current legislation requires that an actuarial investigation be undertaken at least every three years. Where a defined benefit fund (such as the Plan) is paying defined benefit pensions, legislation requires an actuarial investigation to be undertaken annually, unless APRA determines that less frequent investigations (at intervals determined by APRA, between 1 year and 3 years) are permitted for that fund.

The purpose of this investigation is to:

- Examine the sufficiency of the assets in relation to members' accrued benefit entitlements at the valuation date;
- Determine the recommended employer contributions required after the valuation date;
- Satisfy the requirements of the Superannuation Industry (Supervision) Act and Superannuation Prudential Standard 160;
- Comment on any other matter as required under relevant Professional Standards of the Institute of Actuaries of Australia; and
- Comment and advise on any matter considered relevant.

Current legislation also requires that the investigation consider the solvency and financial position of the Plan both as at the investigation date and during the ensuing three years.

This report is provided to the Trustee of the Plan and the Employer.

2.4 Key Risks

There are a number of risks relating to the operation of the Plan. The more significant financial risks for the Plan are:

- Investment risk

  Investment risk is borne by the Employer. The risk is that investment returns will be less than assumed and the Employer will need to increase contributions to offset this shortfall.

  For example, if the assumed future investment return was reduced by 1% p.a. with no change to other assumptions, then the Plan's net deficit would increase by about $11 million.

  We note that the actual investment return achieved by the Plan in the future may vary (positively or negatively) from the rate assumed in this investigation by much more than the negative 1% p.a. in the above sensitivity scenario.

- Salary growth risk

  Salary growth risk is borne by the Employer. This risk is that wages or salaries (on which future benefit amounts will be based) will increase more rapidly than anticipated, increasing benefit amounts and thereby requiring additional contributions from the Employer.

  For example, the impact of a 1% p.a. salary increase, with no change to other assumptions, would be an increase in the net deficit in the Plan of about $1 million.

- Liquidity risk

  Liquidity risk is borne by the Employer. The expected average term of the active defined benefit liabilities, which are just over half of liabilities in the Plan, is approximately 6 years. Although the members of some (but not all) categories are eligible to receive pension benefits, the majority of benefit payments will be paid in lump sum form. Accordingly, it is expected that benefit payments in coming years will exceed net contributions to the Plan. This means that there is a need for the Trustee to ensure that the Plan's investments provide a suitable level of liquidity to meet projected benefit payments.

We note that the Plan's defined benefit assets are invested in an investment option together with the assets of many other funds and members, both accumulation and defined benefit based. We expect that the current investment policy will provide an adequate level of liquidity for the Plan.

- Benefit selection risk

  The risk is that, where members are eligible to take their benefit as a lifetime pension, more members than assumed elect a lifetime pension (as opposed to a lump sum). The actuarially calculated value of the lifetime pension, based on the assumptions adopted for this review, is generally greater than the value of the lump sum retirement benefit. If more members take their benefit as a lifetime pension, the liability will be higher than currently estimated and may require employers to make additional contributions in future.

  For example, we estimate that if the assumed pension take-up by eligible members was increased from 75% to 100% with no changes to other assumptions, then the Plan's net deficit at 31 December 2022 would increase by about $1,715,000 for the APA APT_AM DB section and $2,563,000 for the APA Gasnet DB section.

- Pensioner indexation risk

  The risk is that future pension payments which are linked to Consumer Price Inflation increase by more than assumed, increasing the cost of providing pensions and thereby requiring additional employer contributions.

  We note that for the purposes of this investigation, we have taken into account the known pension increase rate of 7% p.a. effective 1 July 2023.

  For example, if future pension increases were 1% p.a. higher than the assumptions adopted in this investigation, with no changes to other assumptions, then we estimate that the Plan's net deficit at 31 December 2022 would increase by about $5.8 million for the APA APT_AM DB section and by about $5.1 million for the APA Gasnet DB section.

  We note that there is the risk of further strain on the financial position of the Plan, and in particular on the APA APT_AM DB and APA Gasnet DB sections, if future increases in Consumer Price Inflation are higher than the assumed rate of 2.5% p.a.. That is, if inflation continues to be higher in the short-term, then this will result in deterioration in the financial position due to higher than expected pension liabilities.

- Pensioner longevity risk

  Pensioner longevity risk is borne by the Employer. The risk is that the pensioners will live longer than expected requiring more pension payments and therefore an increased pension liability for the Plan.

  For example, if pensioner mortality was 10% lower than the assumptions adopted in this investigation, with no changes to other assumptions, then we estimate that the Plan's net deficit at 31 December 2022 would increase by about $676,000 for the APA APT_AM DB section and $436,000 for the APA Gasnet DB section.

- Impact of valuing pensions at 'market value'

  The assumptions used to value the present value of accrued benefits in respect of lifetime pensions in payment in the Plan for the purposes of this investigation are considered suitable taking into account the Plan's current circumstances, including the current investment policy. In particular, the assumptions have been set on the basis that pensioners' reasonable expectations on termination of the Plan would be for a continuation of their existing pension entitlements through a complying superannuation fund with ongoing support of the employer.

  If instead the pension liabilities were to be valued on a 'market value' basis – that is, the amount which would be required to be paid to a third party (such as a life insurer) to take on the liability – a significantly higher pension liability would be obtained. It is likely that a life insurance company would base its pricing on a lower 'risk-free' discount rate and adopt more conservative mortality assumptions. Under this basis, we estimate that the deficit of assets over the present value of accrued benefits in the Plan would be likely to increase by roughly $30 million.

- Self-insured disability risk

  The risk is that higher rates or amounts of disability claims are made which are not covered by external insurance relative to the assumptions underlying the calculation of the self-insurance reserve, resulting in a deterioration of the self-insurance reserve. The Employer ultimately bears the self-insurance risk, as a disablement claim in respect of a defined benefit member which is not covered by the external TPD insurance will affect the overall funding position of the defined benefit section of the Plan due to lower assets being available to support the benefit entitlements of remaining defined benefit members. Any resulting funding shortfall would be taken into account in a review of the employer contributions needed to fund the defined benefit sections in the Plan.

- Legislative risk

  Legislative risk is borne by the Employer. The risk is that legislative changes could be made which increase the cost of providing the defined benefits – for example, an increase in the rate of taxation on superannuation funds or an increase in the Superannuation Guarantee (SG) rate.

  Legislation has been passed to increase the SG rate from 10.5% to 12% progressively over the period from July 2022 to July 2025, with the next increase occurring with effect from July 2023. The benefits provided to active defined benefit members are subject to a minimum of the Minimum Requisite Benefits defined in the Plan's Benefit Certificate. This may increase the benefits payable to some defined benefit members, and therefore increase the cost of providing the defined benefits. We have allowed for the legislated SG rates in determining future funding requirements for the Plan.

The Risk Management Strategy and Risk Management Policy of the MLC Super Fund should identify the full range of risks faced by the Trustee in respect of the Fund as a whole and also in respect of its sub-plans including the Plan.

2.5 Previous Valuation

The previous actuarial investigation of the Plan was effective 31 December 2019 and was the fourth actuarial investigation of the Plan. It was undertaken by Diane Somerville, FIAA, and Geoff McRae, FIAA, of Deloitte Actuaries & Consultants Limited, and the results set out in a report dated 23 June 2020.

An examination of the financial position at 31 December 2019 indicated that Vested Benefits for defined benefit members were 108.3% covered by the market value of defined benefit assets. The progress towards meeting benefit liabilities in the longer term was measured by the coverage of the accrued benefits reserve by the market value of defined benefit assets, being 104.1%. Both of these results indicated a satisfactory financial position at 31 December 2019. The results for each defined benefits section of the Plan as at 31 December 2019 were:

	Vested Benefits Index	Accrued Benefits Index
APA Russell DB	112.7%	111.9%
APA APT_AM DB	109.4%	106.0%
APA Gasnet DB	103.2%	95.4%
Total Defined Benefits	**108.3%**	**104.1%**

The report made the following contribution recommendations:

- APA Russell DB: 10.9% p.a. of defined benefit members' salaries to 30 June 2020, and at 8.0% p.a. of defined benefit members' salaries from 1 July 2020; plus
- APA APT_AM DB: 9.5% p.a. of defined benefit members' salaries to 30 June 2020, and at 18.8% p.a. of defined benefit members' salaries from 1 July 2020; plus
- APA Gasnet DB: 20.8% p.a. of defined benefit members' salaries to 30 June 2020, and at 13.2% p.a. of defined benefit members' salaries plus $116,000 per month from 1 July 2020 until 31 December 2022, and thereafter at 13.2% p.a. of defined benefit members' salaries until completion of the report on the next actuarial investigation; plus
- Member contributions which are paid by the employer under "salary sacrifice" or "deemed" arrangements.

In addition, it recommended that:

- the Trustee obtain actuarial advice on an annual basis to confirm that the recommended additional contributions for the APA Gasnet DB section remain adequate for the purposes of returning that section to a satisfactory financial position by 31 December 2022, as part of monitoring the restoration plan for that section of the Plan;
- the Plan's financial position is monitored on a quarterly basis to ensure the continued appropriateness of the Plan contribution rates to maintain the Vested Benefits Index of at least 100%; and
- these recommendations be reviewed where the Plan undergoes significant changes to its membership or benefit basis, or there is a substantial reduction in the value of the Plan's investment portfolio.

It was subsequently agreed between the Employer, the Trustee and the actuary that the increased employer contributions commence with effect from 1 September 2020, rather than 1 July 2020.

2.6 Subsequent Recommendations

We note that the APA Gasnet DB section attained a satisfactory financial position at 31 December 2020 and maintained this over the following 9 months up to 30 September 2021, and consequently the Restoration Plan at the time was treated by the Trustee as having ended early (in accordance with section 35 of APRA's Prudential Practice Guide SPG 160 – Defined Benefit Matters (SPG 160)).

We provided updated advice to the Trustee in our letter dated 15 October 2021 given the improvements in the financial position of the APA APT_AM DB and APA Gasnet DB sections of the Plan over the period ending 30 June 2021, and the sustained return to a satisfactory financial position for the APA Gasnet DB section. That letter revised the recommended contribution levels in order to prevent build-up of excessive surplus assets in the Plan at the time.

The revised employer contribution recommendations set out in our letter dated 15 October 202 were as follows:

- APA Russell DB: at least 8.0% p.a. of defined benefit members' salaries until completion of the report on the next actuarial investigation; plus
- APA APT_AM DB: at least 18.8% p.a. of defined benefit members' salaries up to 30 June 2021, and at least 11.0% p.a. from 1 July 2021 until completion of the report on the next actuarial investigation; plus
- APA Gasnet DB: at least 13.2% p.a. of defined benefit members' salaries plus $116,000 per month up to 30 September 2021, and thereafter at least 13.2% p.a. of defined benefit members' salaries until completion of the report on the next actuarial investigation; plus
- Member contributions which are paid by the employer under "salary sacrifice" or "deemed" arrangements.

2.7 APRA Prudential Standards

Superannuation Prudential Standard 160 (Defined Benefit Matters) ("SPS 160") deals with a range of matters affecting defined benefit funds.

SPS 160 requires a Registered Superannuation Entity ("RSE") licensee (that is, a trustee) of a defined benefit fund to set a shortfall limit, and to determine and implement a monitoring process to detect when the fund has, or may have, breached the shortfall limit and/or moved into an unsatisfactory financial position. If the shortfall limit is, or may be breached, SPS 160 outlines a range of actions that will need to be performed, which may include conducting an actuarial investigation.

The Trustee has set the shortfall limit at a level of 97% for the Plan.

As at 31 December 2022, the Plan was in an unsatisfactory financial position, and remained in an unsatisfactory financial position as at 31 March 2023 (allowing for the updated pensioner assumptions as reflected in this report). In addition, the APA APT_AM DB and APA Gasnet DB sections of the Plan were in an unsatisfactory financial position as at 31 December 2022 and 31 March 2023 on that basis. Further, we advise that the VBI was below the shortfall limit as at 31 December 2022 for the Plan as a whole and also for the APA Gasnet DB section.

We have addressed the requirements of paragraph 31 of SPS 160 as part of this report, and the recommended employer contributions set out in this report are designed to return the Plan, and each defined benefits section, to a satisfactory financial position over the period to 31 December 2025. Following receipt of this report, the Trustee should develop and approve a restoration plan in this regard.

Further details regarding future projections of the Plan's financial position are shown in Section 7 of this report.

Based on the results of this investigation, we recommend that the Trustee maintain the shortfall limit for the Plan at 97%.

3 Data

3.1 Current data

We have obtained details of the membership of the Plan at 31 December 2022 from MLC Wealth Limited, the administrator of the Plan, for the purposes of this report. The details are summarised below. At the valuation date there were 84 active defined benefit members with total annual salaries of $10,952,157. (This excludes 2 members – 1 in the APA Russell DB section and 1 in the APA APT_AM DB section - who had ceased employment at 31 December 2022 but in respect of whom a benefit had not yet been paid from the Plan as at 31 December 2022.)

Section	Category	Number of Members	Average Service (Years)	Average Age (Years)	Total Annual Salaries ($)	Average Annual Salary ($)
APA Russell DB	RC:0	7	22.1	56.1	1,338,591	191,227
	Contrib. RC	17	25.0	58.5	2,673,750	157,279
	RG	-	-	-	-	-
	Subtotal	**24**	**24.2**	**57.8**	**4,012,341**	**167,181**
APA APT_AM DB	CA:5	13	35.6	59.8	1,446,784	111,291
	OEAB:16	1	29.3	64.5	***	***
	OES:5	31	36.0	57.6	3,285,126	105,972
	OETD:16	-	-	-	-	-
	OETD:20	-	-	-	-	-
	Subtotal	**45**	**35.7**	**58.4**	**4,857,459**	**107,944**
APA Gasnet DB	CA:5	15	37.0	58.1	2,082,358	138,824
	Subtotal	**15**	**37.0**	**58.1**	**2,082,358**	**138,824**
Total Actives	**Total**	**84**	**32.6**	**58.2**	**10,952,157**	**130,383**

Note: Some salary figures have been redacted for privacy reasons.

In addition to these active members of the Plan, there were 42 pensioners at 31 December 2022, consisting of 28 pensioners in the APA APT_AM DB section with total annual pensions of $2,096,067 and 14 pensioners in the APA Gasnet DB section with total annual pensions of $1,336,712.

The defined benefit sections of the Plan are closed to new members.

We have reconciled the movements in the defined benefit membership between 31 December 2019 and 31 December 2022 as follows:

Section	Category	Number of members at 31 Dec 2019	Exits during period	Transfer between Categories	Number of members at 31 Dec 2022
APA Russell DB	RC	32	(8)	-	24
	RG	3	(3)	-	0
	Sub-Total	**35**	**(11)**	**-**	**24**
APA APT_AM DB	CA:5	18	(1)	(4)	13
	OEAB:16	1	-	-	1
	OES:5	40	(9)	-	31
	OETD:16	2	(2)	-	-
	OETD:20	1	(1)	-	-
	Pensioners	24	-	4	28
	Sub-Total	**86**	**(13)**	**-**	**73**
APA Gasnet DB	CA:5	18	(1)	(2)	15
	Pensioners	12	-	2	14
	Sub-Total	**30**	**(1)**	**-**	**29**
Total		**151**	**(25)**	**-**	**126**

We placed checks on the data to ensure that all dates, salaries and other amounts were reasonable, based on the information available to us at the date of this investigation. We are satisfied that the data provided is reasonable for the purposes of this investigation.

4 Assets

4.1 Asset information

Assets and cash flow information was provided to us by the administrator, MLC Wealth Limited, for the purposes of this valuation.

We were provided with the value of assets held as at 31 December 2022 and a reconciliation of cash flows from the previous investigation date (31 December 2019) up to 31 December 2022.

As the Plan is a sub-plan in the Plum Division of the MLC Super Fund a separate set of financial statements is not prepared for the Plan. The asset information for the Plan is therefore not separately audited.

For the defined benefit members, we were provided with the value of assets held as at 31 December 2022. This data has not been adjusted for unpaid contributions or tax benefits. We do not believe that these will have a material effect on the position of the Plan.

We are satisfied that the information provided appears to be correct based on our knowledge of the Plan.

4.2 Net market value

The assets backing active defined benefit members are invested in the Pre-mixed Moderate investment option. Assets backing pensions in payment are invested in the JANA Moderate (Pension) untaxed option.

Members of the APA APT_AM DB and APA Gasnet DB sections may choose their own investment strategy in respect of their additional accumulation (e.g. voluntary contributions and rollover) accounts. We note that APA Russell DB active members do not have member investment choice.

The net market value of defined benefit assets in the Plan was advised to be $130,260,181 as at 31 December 2022. These assets were reduced by $1,937,592 in relation to the APA Russell defined benefit assets and by $619,764 in relation to the APA APT_AM defined benefit assets, to allow for an estimate of benefits payable at 31 December 2022 in relation to active members who ceased employment before that date, to ensure that the assets and liabilities were treated consistently.

Hence, the total net defined benefits assets of the Plan were $127,702,825 as at 31 December 2022. The table below shows the assets of each section as at 31 December 2022:

Defined Benefit Section		Value
Total Defined Benefit Assets – APA Russell		$ 19,343,457
Total Defined Benefit Assets – APA APT_AM		
APA APT_AM DB Reserve	$38,261,354	
APA Pension APT_AM Reserve	$33,294,057	
Total Assets – APA APT_AM		$ 71,555,411
Total Defined Benefit Assets – APA Gasnet		
APA Gasnet DB Reserve	$17,131,541	
APA Pension Gasnet Reserve	$19,375,684	
Total Assets – APA Gasnet		$ 36,507,225
Total Self-Insurance Reserve (see section 8.1.1)		$ 296,732
Net assets at 31 December 2022		**$ 127,702,825**

The net assets exclude $6,178,177 for the APA APT_AM DB section and $705,526 for the APA Gasnet DB section which relate to the value of additional accumulation accounts subject to member investment choice for defined benefit members as at 31 December 2022.

We note that the above values of assets do not include any amounts in relation to Operational Risk Financial Requirement (ORFR) reserves as these are held by the Trustee, not within the Fund.

In assessing the financial position ratios for the Plan, we have excluded the self-insurance reserve from the assets available to support the defined benefit liabilities.

4.3 Investment strategy

The Trustee has developed formal objectives and a policy for the investment of the Fund's assets. These objectives and policy are summarised in the Product Disclosure Statement and other information available to employers and members.

Further, the Trustee has agreed the investment policy in respect of those assets which are designated to support the defined benefit liabilities. The general aim of the investment strategy of the Plan is to achieve capital and income growth, while minimising the risk that members' benefits will not be adequately covered, through asset diversification and the use of professional fund managers.

The assets supporting the Plan's active defined benefit liabilities are invested in the Pre-mixed Moderate portfolio, and the assets supporting the Plan's pensioner liabilities are invested in the JANA Moderate portfolio.

The strategic asset allocation for the Plan's defined benefit assets as at 31 December 2022 is as follows:

Asset Class	Strategic Allocation – Pre-mixed Moderate (%)	Strategic Allocation – JANA Moderate (Pension) (%)
Australian shares	25%	25%
International shares	28%	28%
Private equity	5%	5%
Property	6%	6%
Alternatives	4%	4%
Infrastructure	6%	6%
Fixed interest	19%	19%
Cash	7%	7%
Total	**100%**	**100%**

Based on information received from the administrator we understand that the Plan's actual allocation was very close to the strategic allocation as at 31 December 2022.

We have reviewed the Plan's investment policy in light of the funding method adopted and the nature of the Plan's liabilities. The overall proportion of assets invested in "growth" assets (approximately 72%) is similar to other superannuation funds of a similar size. In our opinion the Plan's current investment strategy remains appropriate, provided that the Employer recognises and accepts the potential variability in returns and the resulting impact on contribution requirements.

Notwithstanding the above, the Trustee and Employer should be aware adoption of such a “growth” strategy is accompanied by an increased level of risk compared to other less “aggressive” approaches. Continuation of the strategy in respect of the Plan’s defined benefit members requires regular monitoring of future investment returns.

We have taken account of the investment objectives of the Plan and the investment guidelines in setting our actuarial assumptions in Section 5 of this report and framing our contribution recommendations in Section 7.6.

4.4 Investment performance

During the period to 31 December 2022, the rate of return earned on the Plan’s active defined benefit assets net of tax and investment management fees was estimated to be:

Year	Earning rate (% p.a.)
2020	2.9%
2021	14.9%
2022	-3.5%
Average annual rate	**4.5%**

Over the 3 years to 31 December 2022, the Plan’s actual earnings rate was 4.5% p.a.

In the period from 1 January 2023 to 31 March 2023 the Plan’s active defined benefit assets earned approximately 2.8%.

Also, based on the changes in unit prices, the Plan’s pension assets earned approximately 3.7% p.a. (gross of tax, but net of investment management fees) on average over the three years ended 31 December 2022. In the period from 1 January 2023 to 31 March 2023 the Plan’s active defined benefit assets earned approximately 3.3% (gross of tax).

We consider the impacts of investment performance in the period since 31 December 2022 on our contribution recommendations later in this report.

4.5 Crediting rate policy

The Trustee has previously approved the use of a simplified basis for the calculation of the relevant rates of interest. This basis provides that the Crediting Rate of Interest is calculated as the actual rate of interest earned on the defined benefit members’ assets for each three (3) month period.

During the period to 31 December 2022 the crediting rates applied to defined benefit members' accounts were as follows:

Year	Crediting rate (% p.a.)
2020	2.9%
2021	14.9%
2022	-3.5%
Average annual rate	**4.5%**

Over the 3 years to 31 December 2022, the Plan's crediting rate was 4.5% p.a. on average. Therefore, over the inter-valuation period, the rate of actual investment earnings matched the rate of interest credited to defined benefit members' accounts, due to the operation of the crediting rate policy.

We have reviewed the current approach to crediting interest to defined benefit member's account balances in the Plan in light of the nature of the Plan's liabilities, and in our opinion this remains appropriate.

4.6 Nature of liabilities

The defined benefit liabilities of the Plan primarily reflect a combination of salary growth, member service and movements, the aging of the workforce, and the declared crediting rates. Also important is the level of the minimum Superannuation Guarantee accounts of members. The supporting assets however depend on:

- The amount of employer and member contributions; and
- The level of investment returns over time.

Most critical is the fact that the defined benefit liabilities are not directly linked to the investment returns.

In this case it is the employer who bears the net effect of investment risk. The level of employer contributions required depends in part on the level of investment returns achieved.

Note that in the case of member accumulation accounts, there is a direct link between the investment return and the value of the member account, and hence the employer does not carry investment risk in respect of those accounts.

An investment strategy that is framed to take a long term view will often adopt relatively high levels of growth assets (property and equity investments) in order to:

- Secure attractive long term investment returns; and
- Provide an opportunity for capital appreciation and dividend growth, which gives some protection against inflation (as benefits are linked to salary growth which is also influenced by inflation).

Historically, growth assets have provided higher investment returns over medium to longer time periods than defensive assets (bonds and cash). However, these returns have also been more volatile exposing the Plan to a greater risk of a fall in the value of assets, as was experienced during the Global Financial Crisis.

Some funds hold a reserve as a buffer against the likely fluctuation in asset values. The size of the required reserve will depend on the degree to which the employer is willing and able to accept short term variations in contributions as part of underwriting the defined benefits of the fund.

The concern about the volatility in asset values has led some companies to adopt more conservative investment policies. While this may reduce short term fluctuations in asset values, it is also likely to reduce long term returns and hence result in increased employer contributions in the long term.

In summary, a balance needs to be achieved between these short term and long term considerations in funding the defined benefit liabilities.

The valuation report assumes the current investment strategy will be retained by the Trustee in respect of defined benefit liabilities. We confirm that, in our opinion, the current investment strategy is appropriate for the long term.

5 Valuation method and assumptions

5.1 The valuation process

To carry out an actuarial valuation, it is necessary to decide on:

- The funding method to be adopted;
- The value of the assets for the purposes of long term assessment; and
- The assumptions as to the factors which will affect the cost of the benefits to be provided by the Plan in the future.

5.1.1 Funding method

A funding method is a systematic basis for meeting the cost of benefits over the years of operation of the Plan. It recognises that:

- a member's benefit entitlements should be funded as uniformly as possible over his or her working lifetime; and
- the assets of the Plan should cover the total benefits which members would reasonably expect if they left the Plan.

This valuation has been carried out using the Attained Age Normal method. The same funding method was used in the previous actuarial investigation as at 31 December 2019.

This method separately identifies the Employer contribution rate required to meet the cost of providing current members with benefits in respect of:

- future membership of the Plan (the "Employer normal contribution rate"); and
- past membership of the Plan that is not fully funded as at the valuation date (the "Employer additional contribution rate")

Where a deficit exists as at the valuation date – i.e. the value of the Plan's past membership liabilities exceeds the value of the Plan's assets – the additional contribution rate will be positive and will increase the total employer contribution rate. Conversely, where a surplus exists at the valuation date, the additional contribution rate will be negative and will reduce the total employer contribution rate required.

In addition, for this valuation we have adopted a target of 100% of the members' vested benefits, consistent with the requirements of SPS 160.

The important point is that there is a direct and transparent link between employer contributions and the security afforded to member benefits by the accumulated assets held in the Plan on their behalf. From the employer's perspective there is greater clarity about the logical underpinning behind the contribution recommendation, the Plan's current financial position, and the Plan's financial objectives.

The choice of method does not directly affect the cost of benefits provided by the Plan, which depends upon the Plan's actual experience in future years. All funding methods are expected to produce the same total cost of benefits with the choice of method determining the "pace" at which such costs are met by the Employer.

We consider that the Attained Age Normal funding method is suitable in the current circumstances of the Plan as the defined benefits section is closed to new members.

5.1.2 Value of assets

For the purposes of this valuation, we have used an asset value of $127,702,825. We are satisfied that this value is appropriate.

The assets are available to meet defined benefit member liabilities (including pensioner liabilities), and also to support self-insurance liabilities within the Plan.

5.2 Plan experience and assumptions

It is important when setting the valuation assumptions to examine the past experience of the Plan to see whether the previous assumptions have been borne out in practice. A summary of the major items of experience over the period to the investigation date is given in the following paragraphs.

5.2.1 Investment return

Over the inter-valuation period, the Plan's active defined benefit assets earned 4.5% p.a. (net of tax) and the Plan's pension assets earned 3.7% (gross of tax) on average compared to the assumptions in the previous valuation of 6.0% p.a. (net of investment fees and taxes) for assets backing active defined benefit members, and a long-term future investment return of 6.5% p.a. (gross of investment taxes) for assets backing defined benefit pensions in payment. This has had a negative effect on the financial position of the Plan.

For this valuation, we have retained the long term future investment return of 6.0% p.a. (net of investment fees and taxes) for assets backing active defined benefit members, and a long-term future investment return to 6.5% p.a. (gross of investment taxes) for assets backing defined benefit pensions in payment. This assumption takes into account the investment strategy of the Trustee with respect to assets supporting the defined benefit liabilities. This rate reflects the current long term earnings expectations of the major asset classes in which the defined benefit assets of the Plan are invested.

5.2.2 Salary increases

For the purpose of the actuarial investigation, salary increases are generally split into two components, namely inflationary increases and promotional increases. Inflationary increases are generally assumed to be in line with increases in Average Weekly Earnings over time while promotional increases are often related to age and to the industry in which members are employed.

Over the period covered by this report, overall salary increases have been approximately 2.3% p.a. for defined benefit members who were in each of the APA Russell section and the APA APT_AM DB and APA Gasnet DB sections at both 31 December 2019 and 31 December 2022, i.e. 2.3% p.a. for all defined benefit members overall. This is lower than the assumed 3.0% p.a. rate used in the 31 December 2019 valuation and therefore has had a positive effect on the Plan's financial position.

Given the current inflationary environment in Australia, we have retained our assumption of a long-term salary inflation assumption of 3.0% p.a. for all defined benefit members for the purposes of this investigation.

5.2.3 Net real return

The difference between the level of investment returns and salary increases is important as it links the growth in assets to the growth in salary-related liabilities.

Over the inter-valuation period, the difference between the actual investment return (net of tax) and the rate of salary growth has been in the order of 2.2% per annum. The “gap” assumed in the 31 December 2019 valuation was 3.0% per annum. Since this is higher than the actual “gap”, the combined effect of the Plan’s investment and salary experience has been negative over the period since the previous investigation.

For this valuation, the gap between the assumed rate of future investment earnings and the assumed rate of future salary increases is 3.0% p.a..

5.2.4 Rates at which members left service

Considering the size of the membership, a full analysis of the experience in respect of the rates at which members left service due to retirement, resignation, death or total and permanent disablement (TPD) would not produce statistically credible results.

For the purpose of this valuation we have therefore not undertaken a detailed analysis of decrement experience over the period from 1 January 2020 to 31 December 2022. However, we have instead conducted a simplified experience analysis by count, looking at the actual numbers of exits which occurred in the three years ended 31 December 2022 compared to the numbers expected under the actuarial basis adopted for the 31 December 2022 valuation, for each decrement type.

The following tables show a comparison of actual exits versus those expected under the previous valuation basis over the three years ended 31 December 2022:

APA Russell DB section:

Decrement type	Actual	Expected	Difference (A-E)
Withdrawal	3	3.8	(0.8)
Retirement	8	8.2	(0.2)
Death/TPD	0	1.1	(1.1)
Total	**11**	**13.1**	**(2.1)**

APA APT_AM DB and APA Gasnet DB sections:

Decrement type	Actual	Expected	Difference (A-E)
Withdrawal	0	2.6	(2.6)
Retirement	20*	25.9	(5.9)
Death/TPD	0	1.4	(1.4)
Total	**20**	**29.9**	**(9.9)**

* Includes 6 members who elected to take pension benefits and 1 participant who was a benefit payable in the Plan as at 31 December 2022.

The actual experience for the APA Russell DB section of the Plan was only slightly lower than that expected based on the assumptions used in the previous investigation. Accordingly, we have retained the same demographic assumptions for the APA Russell DB section of the Plan as those used in the previous investigation as at 31 December 2019, as we believe those assumptions remain appropriate, having considered the materiality of those assumptions on the valuation results.

The actual experience for the APA APT_AM DB and APA Gasnet DB sections above appears to be significantly lower than that expected based on the assumptions used in the previous investigation. Accordingly, for the purposes of this investigation, we have lowered the assumed rates of retirements for the APA APT_AM DB and APA Gasnet DB sections to more closely reflect recent experience.

The following table shows a comparison of actual exits versus those which would have been expected under the revised assumption basis over the three years ended 31 December 2022:

APA APT_AM DB and APA Gasnet DB sections:

Decrement type	Actual	Expected	Difference (A-E)
Withdrawal	0	2.6	(2.6)
Retirement	20*	19.8	0.2
Death/TPD	0	1.5	(1.5)
Total	20	23.9	(3.9)

* Includes 6 members who elected to take pension benefits and 1 participant who was a benefit payable in the Plan as at 31 December 2022.

We have retained the same rates for other demographic assumptions (i.e. withdrawals and deaths/TPDs) as those used in the previous investigation as at 31 December 2019, as we believe those assumptions remain appropriate, having considered the materiality of those assumptions on the valuation results.

Details of the demographic assumptions used are set out in Appendix B.

5.2.5 Crediting Rates

The Plan's approach to crediting interest rates to members' accounts is in accordance with the 'standard' approach in the Trustee's Product Management Standard Operating Procedures (approved 28 November 2019). That is, subject to the Trustee's policy on exceptional crediting rate events, crediting rates are based on the actual money weighted return of the defined asset pool.

The interim rate is based on the Commonwealth government 10 year bond yield at the start of the relevant quarter.

We confirm the Plan's current approach to crediting interest to defined benefit members' account balances is appropriate for the Plan at this time.

5.2.6 Pension increases

Over the period covered by this report, overall pension increases have been approximately 2.8% p.a. for pensioners in payment at both 31 December 2019 and 31 December 2022. This is higher than the assumed 2.0% p.a. rate used in the 31 December 2019 valuation and therefore has had a negative effect for Plan's financial position.

Based on known increases in the Consumer Price Inflation (CPI) index over the year ended March 2023 of 7.0% p.a., we note that the pensions in the Plan will be indexed at 7.0% effective 1 July 2023. Accordingly, we have allowed for this known pension increase rate for the purposes of this valuation.

Given the current inflationary environment in Australia, we have increased our assumption for long-term pension increases to 2.5% p.a., compared to the previous assumption of 2.0% p.a.. We note that an assumption of 2.5% p.a. is at the mid-point of the Reserve Bank of Australia's target range for CPI.

Therefore, in this valuation, we have assumed that future pension increases will be 7.0% for the first year and 2.5% p.a. thereafter, consistent with our expectations of long-term price inflation.

As noted earlier, there is the risk of further strain on the financial position of the Plan, and in particular on the APA APT_AM DB and APA Gasnet DB sections, if future CPI increases are higher than the assumed rate of 2.5% p.a.. That is, if inflation continues to be higher in the short-term, then this will result in deterioration in the financial position due to higher than expected pension liabilities.

5.2.7 Pensioner mortality

The number of lifetime pensioners is not sufficient to undertake a reliable analysis of experience. Therefore, we have adopted a pensioner mortality table based on the Australian Life Tables 2015/17 (being the latest Australian population life tables published by the Australian Government Actuary), with a 2-year age reduction to account for expected lighter mortality for pensioners than the Australian population. The decrements also allow for mortality improvement in the future based on the 25-year mortality improvement factors developed by the Australian Government Actuary as part of preparation of Australian Life Tables 2015/17 up to 2041, reverting to 100-year mortality improvement factors thereafter.

5.2.8 Pensioner take-up assumptions

The previous actuarial investigation as at 31 December 2019 assumed that 60% of eligible members in Categories CA and CB will elect to take a lifetime pension at retirement. We note that over the inter-valuation period there were 8 exits of Category CA and CB members, of whom 6 members (approximately 75%) of these members) elected to take pension benefits.

Accordingly, we have updated the pension take-up assumption to 75% for the purposes of this valuation; i.e. 75% of Category CA and CB members will elect to take a lifetime pension on retirement.

5.2.9 Administration expenses

Administration expenses comprise $52 (indexed annually in line with CPI) per annum for each member (including pensioners) is met by the Employer, and these have been allowed for in the calculations of future liabilities to be funded by employer contributions. In addition, a plan management fee of 0.04% p.a. of assets and trustee levy fee of 0.02% of assets applies and is subsidised by the employer, to the extent that they relate to the assets backing defined benefits in the Plan. Other expenses which are met from the defined benefit assets have been estimated to be approximately 0.40% p.a. of defined benefit member salaries.

In addition, the amount of administration expenses and insurance premiums for accumulation members which are met by the Employer through deductions from the defined benefit reserves are approximately $110,000 per annum. Currently, these amounts are being deducted from the APA Russell DB reserve each month.

If the cost of employer-funded administration expenses and insurance premiums continue to be deducted from the APA Russell DB assets, we estimate that this is approximately equivalent to an additional contribution rate of 3.0% of APA Russell defined benefit salaries over the next three years. However, we note that this additional contribution rate is expected to increase to over 10% over the next ten years, and therefore we intend to review the basis for funding these amounts in respect of accumulation members as part of the next triennial investigation for the Plan.

5.2.10 Insurance

Details of the Plan's group insurance arrangements in respect of death and disablement benefits are included in Section 8.

6 Solvency and funding measures

6.1 Vested Benefits

The initial stage in our valuation is to check the coverage of vested benefits by the market value of the assets.

"Vested benefits" are benefits that would be paid if all members voluntarily left service. The following table shows the vested benefits position of the Plan as at 31 December 2022 compared to that at 31 December 2019:

Section	31 December 2022			31 December 2019		
	Value of assets ($'000)	Vested benefits ($'000)	Vested Benefits Index (VBI)	Value of assets ($'000)	Vested benefits ($'000)	Vested Benefits Index (VBI)
APA Russell DB	19,343.5	16,945.9	114.1%	26,262.0	23,523.9	111.6%
APA APT_AM DB	71,555.4	73,424.2	97.5%	76,308.7	69,734.6	109.4%
APA Gasnet DB	36,507.2	40,997.5	89.0%	33,942.0	32,886.0	103.2%
Total Plan	**127,406.1**	**131,367.6**	**97.0%**	**136,512.7**	**126,144.5**	**108.2%**

The Vested Benefits Index is the ratio of the market value of the Plan's assets to the vested benefits. As shown above, at 31 December 2022 the Plan's Vested Benefits Index was 97.1%.

The assets and vested benefits at 31 December 2022 above exclude $6,178,177 of voluntary accumulation account balances in respect of defined benefit members in the APA APT_AM DB section and $705,526 of voluntary accumulation account balances in respect of defined benefit members in the APA Gasnet DB section. However, they include the value of voluntary accumulation balances in respect of APA Russell DB members of $1,693,264, as those balances were not subject to member investment choice at the valuation date.

Given that the value of voluntary accumulation accounts for defined benefit members in the APA Russell DB section is directly related to the value of underlying assets, there is no need to retain investment reserves in respect of these accounts. Accordingly, the table below shows the coverage of vested benefits for defined benefit members only (excluding voluntary accumulation accounts).

Section	31 December 2022			31 December 2019		
	Value of assets ($'000)	Vested benefits ($'000)	Vested Benefits Index (VBI)	Value of assets ($'000)	Vested benefits ($'000)	Vested Benefits Index (VBI)
APA Russell DB	17,650.3	15,252.7	115.7%	24,290.2	21,552.1	112.7%
APA APT_AM DB	71,555.4	73,424.2	97.5%	76,308.7	69,734.6	109.4%
APA Gasnet DB	36,507.2	40,997.5	89.0%	33,942.0	32,886.0	103.2%
Total Plan	**125,712.9**	**129,674.4**	**96.9%**	**134,540.9**	**124,172.7**	**108.3%**

The important value here is the coverage for the Defined Benefits which is 97.0% at 31 December 2022. This shows that the Plan overall was in an unsatisfactory financial position as at 31 December 2022.

The Vested Benefits Index for defined benefit members has decreased from 108.3% to 96.9% over the three years to 31 December 2022. This deterioration is largely due to the lower than expected investment returns and pension increases being higher than expected over the inter-valuation period, the strain due to higher than expected proportions of eligible members taking their benefit entitlements in pension form, and also higher assumed future pension increases and increases in assumed pension take-up in future for eligible members.

6.2 Accrued Benefits Index

An indication of the funding status of the Plan is also given by the ratio of the value of the Plan's assets to the present value of all benefits accrued at the investigation (subject to a minimum of the member's leaving service benefit, otherwise known as vested benefits). The term "Accrued Benefits" is used in Australian Accounting Standard AASB 1056, and is alternatively referred to as the past service liability or the actuarial value of benefits.

The value placed on the Accrued Benefits is calculated using the actuarial assumptions set out in Appendix B. It represents the value in today's dollars of future benefits based on membership completed to the investigation date, allowing for future salary increases, investment earnings and expected incidence of benefit payments. A minimum of vested benefits at an individual member level has been applied when determining accrued benefits.

A fully secured position is represented by a ratio of 100%. At this level, if the Plan were closed to new entrants and no further benefits were allowed to accrue to current members then assets would be expected to be sufficient to meet all future benefit payments if the actuarial assumptions were borne out in practice.

The following table shows the Accrued Benefits Index of the Plan as at 31 December 2022 compared to that at 31 December 2019:

Section	31 December 2022			31 December 2019		
	Value of assets ($'000)	Accrued benefits[1] ($'000)	Accrued Benefits Index (ABI)	Value of assets ($'000)	Accrued benefits[1] ($'000)	Accrued Benefits Index (ABI)
APA Russell DB	19,343.5	17,121.7	113.0%	26,262.0	23,677.9	110.9%
APA APT_AM DB	71,555.4	75,309.8	95.0%	76,308.7	71,966.6	106.0%
APA Gasnet DB	36,507.2	44,083.5	82.8%	33,942.0	35,595.8	95.4%
Total Plan	**127,406.1**	**136,515.0**	**93.3%**	**136,512.7**	**131,240.4**	**104.0%**

1. After a minimum of vested benefits at the individual member level has been applied

The index of 93.4% indicates that the Plan's assets were not sufficient to fully cover the accrued benefits in the Plan at the investigation date.

We note that the APA APT_AM DB section of the Plan had an Accrued Benefit Index of 95.0% at 31 December 2022, due to a shortfall of assets of approximately $3,754,000 compared to accrued benefits in that section, and the APA Gasnet DB section of the Plan had an Accrued Benefit Index of 82.8% at 31 December 2022, due to a shortfall of assets of approximately $7,576,000 compared to accrued benefits in that section.

The assets and accrued benefits at 31 December 2022 above exclude $6,178,177 of voluntary accumulation account balances in respect of defined benefit members in the APA APT_AM DB section and $705,526 of voluntary accumulation account balances in respect of defined benefit members in the APA Gasnet DB section. However, they include the value of voluntary accumulation balances in respect of APA Russell DB members of $1,693,264, as those balances were not subject to member investment choice at the valuation date.

The following table separately considers Defined Benefits only (excluding all pure accumulation accounts).

Section	31 December 2022			31 December 2019		
	Value of assets ($'000)	Accrued benefits[1] ($'000)	Accrued Benefits Index (ABI)	Value of assets ($'000)	Accrued benefits[1] ($'000)	Accrued Benefits Index (ABI)
APA Russell DB	17,650.3	15,428.5	114.4%	24,290.2	21,706.1	111.9%
APA APT_AM DB	71,555.4	75,309.8	95.0%	76,308.7	71,966.6	106.0%
APA Gasnet DB	36,507.2	44,083.5	82.8%	33,942.0	35,595.8	95.4%
Total Plan	**125,712.9**	**134,821.8**	**93.2%**	**134,540.9**	**129,268.6**	**104.1%**

1. After a minimum of vested benefits at the individual member level has been applied

The Accrued Benefits Index for defined benefit members has decreased from 104.1% as at 31 December 2019 to 93.2% as at 31 December 2022. The decrease in the Accrued Benefits Index over the inter-valuation period is mainly due to changes in valuation assumptions, particularly the increase in assumed pension take-up rates and higher assumed future pension increase rates, the strain caused by higher than expected proportions of eligible members taking their benefit entitlements in pension form and higher than expected pension increases over the inter-valuation period (as well as the high known pension increase rate applying effective from 1 July 2023) and lower than expected investment returns over the period.

We note that the value of accrued benefits before application of the vested benefits minimum was $129,685,000 as at 31 December 2022, which would have resulted in an Accrued Benefits Index (before vested benefits minimum) of 96.9%.

6.3 Minimum Requisite Benefits

Another test of the adequacy of the Plan's assets relates to the benefits which the Plan must provide in order to satisfy the Superannuation Guarantee requirements. These benefits are termed Minimum Requisite Benefits and are defined in the Plan's Benefit Certificate.

The following table shows the coverage of Minimum Requisite Benefits (for Defined Benefits only) at 31 December 2022 compared to that at 31 December 2019:

Section	31 December 2022			31 December 2019		
	Value of assets ($'000)	Minimum Requisite Benefits (MRB) ($'000)	MRB Index	Value of assets ($'000)	Minimum Requisite Benefits (MRB) ($'000)	MRB Index
APA Russell DB	17,650.3	14,704.8	120.0%	24,290.2	20,714.3	117.3%
APA APT_AM DB	71,555.4	63,831.8	112.1%	76,308.7	58,980.7	129.4%
APA Gasnet DB	36,507.2	33,637.6	108.5%	33,942.0	27,148.2	125.0%
Total Plan	**125,712.9**	**112,174.2**	**112.1%**	**134,540.9**	**106,843.2**	**125.9%**

The assets and Minimum Requisite Benefits at 31 December 2022 above exclude $6,178,177 of voluntary accumulation account balances in respect of defined benefit members in the APA APT_AM DB section and $705,526 of voluntary accumulation account balances in respect of defined benefit members in the APA Gasnet DB section, and voluntary accumulation account balances (non-member investment choice) of $1,693,264 in the APA Russell DB section.

The Minimum Requisite Benefits Index in respect of defined benefit members has decreased over the inter-valuation period from 125.9% as at 31 December 2019 to 112.1% as at 31 December 2022. However, it can be seen that the assets more than fully cover the total Minimum Requisite Benefits.

6.4 Retrenchment Benefits

The Plan's Participation Agreement sets out the benefits which would be paid to members in the event of retrenchment, being cessation of employment in circumstances which, in the Employer's opinion, were due to the reduction or reorganisation of labour, or because the position in which the Member is employed is no longer necessary.

The following table shows the coverage of Retrenchment Benefits (for Defined Benefits only) at 31 December 2022 for the sections of the Plan:

Section	31 December 2022			31 December 2019		
	Value of assets ($'000)	Retrenchment Benefits ($'000)	Retrenchment Benefits Index (VBI)	Value of assets ($'000)	Retrenchment Benefits ($'000)	Retrenchment Benefits Index (VBI)
APA Russell DB	17,650.3	15,252.7	115.7%	24,290.2	21,335.5	113.8%
APA APT_AM DB	35,758.0*	34,360.8	104.1%	49,561.7*	41,398.2	119.7%
APA Gasnet DB	13,981.0*	14,042.1	99.6%	18,015.9*	15,304.9	117.7%
Total Plan	**67,389.3***	**63,655.6**	**105.9%**	**91,867.8***	**78,038.6**	**117.7%**

* Excludes assets backing pensions in payment

The table above shows that the Plan assets were sufficient to pay the benefits payable if all members had been retrenched as at 31 December 2022, except for the APA Gasnet DB section. It would be reasonably expected that the Employer would make top-up contributions to the Plan in the event of a significant retrenchment exercise in order to cover any shortfall of assets over benefits. We are not aware of any planned retrenchments by the Employer.

The Retrenchment Benefits Index in respect of defined benefit members has decreased from 117.7% as at 31 December 2019 to 105.9% as at 31 December 2022. This is mainly driven by reductions in the assets supporting active members due to increased assets being required to back pensions in payment, due to the higher than expected proportions of eligible members taking their benefit entitlements in pension form and higher than expected pension increases over the inter-valuation period (including the known increase effective 1 July 2023).

6.5 Termination benefits

The next stage in our valuation is to calculate if there would have been any additional liabilities arising had the Plan terminated on the valuation date. It is obviously critical to be able to meet all of the Plan's obligations in that circumstance.

Clause 7.5 of Schedule 2 (Plum Division) of the MLC Super Fund Trust Deed provides that on termination of the Plan the Trustee must apply the Plan assets in the following order of priority:

1. Meet all costs, expenses and liabilities which have occurred or are likely to occur (other than benefits),

2. Meet Plan benefits (including pensions) which have commenced payment or become payable before the termination date,

3. Pay to each accumulation member the Member's Account Balances and to each defined benefit member the amount which the Actuary determines has accrued in respect of the member. If the assets are insufficient to meet these amounts then all benefits are reduced proportionately.

4. Subject to any Participation Agreement, pay any remaining balance to the participating employers in the proportions determined by the Trustee unless otherwise requested by the employer.

Thus there is no prescribed benefit on Plan termination and there is no liability on the employer for additional amounts other than in respect of contributions paid or owing to the date of termination.

6.6 Events since 31 December 2022

In the period since 31 December 2022, investment markets have been volatile with increases in markets over January 2023 followed by fluctuations up and down over the following months. Based on information provided by the Plan's administrator, the Plan's funding ratio for Vested Benefits (the Vested Benefits Index or VBI) slightly improved up to 31 March 2023, as follows:

	Vested Benefits Index ^ 31 March 2023
APA Russell DB	114.6%
APA APT_AM DB	98.4%
APA Gasnet DB	91.5%
Total Defined Benefits	**98.3%**

^ Note: This calculation has been updated since the March 2023 quarterly financial position update for the Trustee, to reflect the latest pensioner assumptions, including allowance for the known pension increase of 7% effective 1 July 2023.

The increase in the VBI is primarily due to the increase in investment markets since 31 December 2022. Overall the defined benefit section of the Plan experienced a return of 2.8% over the period to 31 March 2023.

This shows that the Plan remained in an unsatisfactory financial position as at 31 March 2023 (allowing for the updated pensioner assumptions as reflected in this report).

Although it is important not to overreact to short-term market movements, we have allowed for an estimate of recent market movements based on available information in the funding projections in the following section.

6.7 Summary of total liabilities

The following table provides a summary of the total liabilities in the Plan, for both defined benefit members and accumulation members, as at 31 December 2022. This information has been included to assist the Trustee in its reporting under SRF 160.0.

	APA Russell DB members $'000	APA APT_AM DB members $'000	APA Gasnet DB members $'000	Accum'n members $'000	Total $'000
***Accrued benefits*[1]**					
Defined benefit interests	13,570	73,574	42,541	-	129,685
Defined contribution interests	1,693	6,178	706	110,103	118,680
Total interest	**15,263**	**79,752**	**43,247**	**110,103**	**248,365**
Vested benefits					
Defined benefit interests	15,253	73,424	40,997	-	129,674
Defined contribution interests	1,693	6,178	706	110,103	118,680
Total interest	**16,946**	**79,602**	**41,703**	**110,103**	**248,354**
Minimum benefits					
Defined benefit interests	14,705	63,832	33,638	-	112,175
Defined contribution interests	1,693	6,178	706	110,103	118,680
Total interest	**16,398**	**70,010**	**34,344**	**110,103**	**230,855**

1. For consistency with AASB 1056, the accrued benefits in this table have not been subject to a minimum of vested benefits. This approach is in accordance with Practice Guideline 499.06 issued by the Actuaries Institute.

7 Valuation results

7.1 Introduction

A key objective of our contribution recommendations is to restore the APA APT_AM DB and APA Gasnet DB sections of the Plan to a satisfactory financial position by 31 December 2025, and then maintain the VBI of at least 100% for each section of the Plan. We have chosen a level of 100% as the 'target' in our funding approach.

The results of the valuation of the Plan on a "going concern" basis are set out below. For this purpose, the value of all future benefit payments is determined using the assumptions described in Appendix B of this report.

The next section considers the projection of the VBI of each section of the Plan over the next 5 years. The projections below show that if the Employer contributes as recommended, the financial position of the APA Russell section of the Plan is expected to remain in a satisfactory financial position over the five years to 31 December 2027, and the APA APT_AM DB and APA Gasnet DB sections of the Plan are expected to return to a satisfactory financial position by 31 December 2025 and then remain in a satisfactory financial position for
the period to 31 December 2027.

7.2 Employer contributions

7.2.1 Current contribution rates

As set out in section 2.6 of this report, the Employer is currently contributing to the Plan at least at the following rates:

- APA Russell DB: 8.0% p.a. of defined benefit members' salaries; plus
- APA APT_AM DB: 11.0% p.a. of defined benefit members' salaries; plus
- APA Gasnet DB: 13.2% p.a. of defined benefit members' salaries; plus
- Member contributions which are paid by the employer under "salary sacrifice" or "deemed" arrangements

7.2.2 Long term funding rates

The results of the valuation of the Plan on a "going concern" basis are set out on the next page. For this purpose, the value of all future benefit payments is determined using the assumptions described in Appendix B of this report.

The long-term funding rates represent the cost of future accruing benefits, factoring in future member contributions and administration/other expenses.

The following table shows the long-term funding rate calculation of the different Plan sections:

	APA Russell DB ($'000)	APA APT_AM DB ($'000)	APA Gasnet DB ($'000)
Future Service Liabilities			
Defined Benefit Liabilities	2,689.5	6,299.6	3,016.7
plus Future administration expenses	215.1	525.7	298.3
Present Value of Future Liabilities (c)	**2,904.6**	**6,825.3**	**3,315.0**
less Value of future Member Contributions (d)	730.0	1,355.0	592.8
Net value of future liabilities (c – d)	**2,174.6**	**5,470.3**	**2,722.2**
PV 1% future salaries	238.4	271.0	118.6
Long-term funding rate (allowing for contributions tax)	**10.7%**	**23.8%**	**27.1%**

The above long-term funding rates reflect the estimated employer contribution rate which would need to be paid to each section of the Plan so that benefits accruing in respect of future service are fully funded, ignoring any existing surplus or deficit of assets compared to the accrued benefits in respect of past service at the valuation date.

7.2.3 Adjustment to funding rates

Adjustment to the long-term funding rates is required for the following items:

- the contribution rate required to fully amortise any current deficit (or surplus), arising from past service, over members’ future periods of Plan membership
- the level of administration expenses and insurance premiums for accumulation members which are funded by the Employer through deductions from the defined benefit reserves.

As noted earlier, based on actual experience up to 31 March 2023, the APA Russell section of the Plan was in a satisfactory financial position as at that date but the APA APT_AM DB and APA Gasnet DB sections of the Plan remained in an unsatisfactory financial position (taking into account the known pension increase rate of 7.0% p.a. as at 1 July 2023).

	APA Russell DB ($'000)	APA APT_AM DB ($'000)	APA Gasnet DB ($'000)
Accrued Liabilities			
Total Present Value of Accrued Benefits (a)	15,428.5	75,309.8	44,083.5
Assets (b)	17,650.3	71,555.4	36,507.2
Actuarial “Surplus”/(“Deficit”) on Present Value of Accrued Benefits (b – a)	**2,221.8**	**(3,754.4)**	**(7,576.3)**
Allowance for Change in Financial Position to 31 March 2023	99.8	665.4	1,000.4
Adjusted Actuarial “Surplus”/(“Deficit”)	**2,321.6**	**(3,089.0)**	**(6,575.9)**
PV 1% future salaries	238.4	271.0	118.6
Increase/(Decrease) to funding rate (allowing for contributions tax)	**(11.5%)**	**13.4%**	**65.3%**

In addition, the amount of administration expenses and insurance premiums for accumulation members which are met by the Employer through deductions from the defined benefit reserves are approximately $110,000 per annum. Currently, these amounts are being deducted from the APA Russell DB reserve each month.

If the cost of employer-funded administration expenses and insurance premiums continue to be deducted from the APA Russell DB assets, we estimate that this is approximately equivalent to an additional contribution rate of 3.0% of APA Russell defined benefit salaries over the next three years. However, we note that this additional contribution rate is expected to increase to over 10% over the next ten years, and therefore we intend to review the basis for funding these amounts in respect of accumulation members as part of the next triennial investigation for the Plan.

Therefore, the table below shows the required employer contribution rate over the long term for each defined benefit section after allowing for adjustments for past service surplus/deficit, and the cost of funding administration expenses and insurance premiums for accumulation members.

	APA Russell DB ($'000)	APA APT_AM DB ($'000)	APA Gasnet DB ($'000)
Long-term funding rate	10.7%	23.8%	27.1%
Increase/(Decrease) to funding rate for past service surplus/deficit	(11.5%)	13.4%	65.3%
Adjustment for cost of admin expenses and insurance premiums for accumulation members	3.0%		
Required employer contribution rate (after rounding and allowing for contributions tax)	**2.2%**	**37.2%**	**92.4%**

Due to the risk of higher-than-expected amounts for employer-funded administration expenses and insurance premiums being deducted from the APA Russell section, and in order to lower the risk of needing to significantly increase contributions to that section in future, we have elected to only reduce the Employer contribution rate for the APA Russell section to 6.0% p.a. of defined benefit salaries (from the current rate of 8.0% p.a.).

However, given the APA APT_AM DB and APA Gasnet DB sections of the Plan were in an unsatisfactory financial position as at 31 December 2022, the following section of this report sets out the recommended employer contributions expected to be required to restore the sections to a satisfactory financial position by 31 December 2025, in accordance with APRA's requirements under SPS 160.

7.2.4 Funding rate to restore VBI to 100%

As noted above, the overall Plan is in an unsatisfactory financial position given the VBI was below 100% at 31 December 2022. This is due to the APA APT_AM DB and APA Gasnet DB sections of the Plan being in an unsatisfactory financial position as at 31 December 2022.

Given the APRA prudential requirements for restoration of funds to a 'satisfactory financial position' within three years, we have estimated that the contributions required to restore the APA APT_AM DB and APA Gasnet DB sections of the Plan to a satisfactory financial position by 31 December 2025 are as follows:

- APA APT_AM DB:
    - at least 11.0% p.a. of defined benefit members' salaries from 1 January 2023 to 30 June 2023; plus
    - at least 23.8% p.a. of defined benefit members' salaries plus $100,000 per month from 1 July 2023; and

- APA Gasnet DB:
    - at least 13.2% p.a. of defined benefit members' salaries from 1 January 2023 to 30 June 2023; plus
    - at least 27.1% p.a. of defined benefit members' salaries plus $150,000 per month from 1 July 2023.

Subject to the relevant section having returned to a satisfactory financial position by 31 December 2025, we recommend that the following contributions be paid from 1 January 2026 until completion of the next actuarial investigation:

- APA APT_AM DB: at least 23.8% p.a. of defined benefit members' salaries; and
- APA Gasnet DB: at least 27.1% p.a. of defined benefit members' salaries.

Once each of the APA APT_AM DB and APA Gasnet DB sections have been returned to a satisfactory financial position as reported in a quarterly financial position update, we recommend that the Trustee seek updated actuarial advice regarding recommended future employer contributions for the relevant section of the Plan.

We have tested the impact of the adoption of the recommended Employer contribution rates by projecting the cash flows of the APA APT_AM DB and APA Gasnet DB sections of the Plan and the build-up of the defined benefit assets over the next five years and comparing the assets to the projected levels of the vested benefits.

These projections have been performed based on the assumptions set out in this report.

7.2.5 Recommended contribution rates

Therefore, on the basis of the funding method described above, we recommend that the Employer contribute at least at the following rates, with effect from 1 July 2023:

- APA Russell DB: 6.0% p.a. of defined benefit members' salaries
- APA APT_AM DB: 23.8% p.a. of defined benefit members' salaries plus $100,000 per month to the later of 31 December 2025 and the restoration of the APA APT_AM DB section to a satisfactory financial position, and thereafter at 23.8% p.a. of defined benefit members' salaries
- APA Gasnet DB: 27.1% p.a. of defined benefit members' salaries plus $150,000 per month to the later of 31 December 2025 and the restoration of the APA Gasnet DB section to a satisfactory financial position, and thereafter at 27.1% p.a. of defined benefit members' salaries

These rates represent the average long-term Employer contribution rates required to ensure sufficient assets are accumulated in the Plan to meet the cost of the Plan members' defined benefits in respect of past and future years of Plan membership based on the assumptions in this report, whilst restoring or maintaining a satisfactory financial position for each section over the three years following the valuation date.

The estimated contributions implied by the above contribution recommendations, based on salary amounts as at 31 March 2023, are shown in the following table:

	DB salaries (@ 31/3/2023) ($)	Recommended contribution rate	Approximate monthly employer contribution ($)
APA Russell DB	3,805,277	6.0%	19,026
APA APT_AM DB	4,904,655	23.8% + $100,000 p.m.	197,276
APA Gasnet DB	2,105,729	27.1% + $150,000 p.m.	197,554
Total Plan	**10,815,661**		**413,856**

Alternative contribution arrangements which may be more suitable to the Employers' circumstances may be considered subject to actuarial advice that they are broadly equivalent to the above contribution rates, and subject to SPS 160 requirements.

We also recommend that the Trustee obtain actuarial advice on an annual basis to confirm that the recommended additional contributions for the APA APT_AM DB and APA Gasnet DB sections remain adequate for the purposes of returning those sections to a satisfactory financial position by 31 December 2025, as part of monitoring the restoration plan for the Plan.

In section 7.3 below we look at projections of the Plan's VBI over the next 5 years, based on the above employer contributions.

7.3 Funding projections

SPS 160 ensures that the contribution recommendation focusses on maintaining the VBI at or above 100%, and should the VBI fall below 100% (as is the case for the APA APT_AM DB and APA Gasnet DB sections of the Plan), getting the VBI back to at least 100% in a period of no greater than 3 years.

We have projected the progression of the VBI for the defined benefits sections of the Plan over the next five years, based on the recommended employer contribution rates set out in section 7.2.5 above. These projections have been performed using the actuarial assumptions contained in section 5.

APA Russell DB	Contribution rate	Projected DB Assets $000s	Projected DB Vested Benefits $000s	Projected DB VBI
31 December 2022 (actual)		19,344	16,946	114.1%
31 March 2023 (actual)		19,549	17,051	114.6%
31 December 2023	8.0% p.a. (to 30/6/2023), 6.0% p.a. (from 1/7/2023)	18,726	16,352	114.5%
31 December 2024	6.0% p.a.	17,985	15,512	115.9%
31 December 2025	6.0% p.a.	17,290	14,777	117.0%
31 December 2026	6.0% p.a.	16,844	14,318	117.6%
31 December 2027	6.0% p.a.	15,764	13,135	120.0%

APA APT_AM DB	Contribution rate	Projected DB Assets $000s	Projected DB Vested Benefits $000s	Projected DB VBI
31 December 2022 (actual)		71,555	73,424	97.5%
31 March 2023 (actual)		73,299	74,502	98.4%
31 December 2023	11.0% p.a. (to 30/6/2023), 23.8% p.a. + $100k p.m. (from 1/7/2023)	72,864	74,632	97.6%
31 December 2024	23.8% p.a. + $100k p.m.	72,899	73,457	99.2%
31 December 2025	23.8% p.a. + $100k p.m.	73,193	72,337	101.2%
31 December 2026	23.8% p.a.	72,007	70,736	101.8%
31 December 2027	23.8% p.a.	69,865	68,976	101.3%

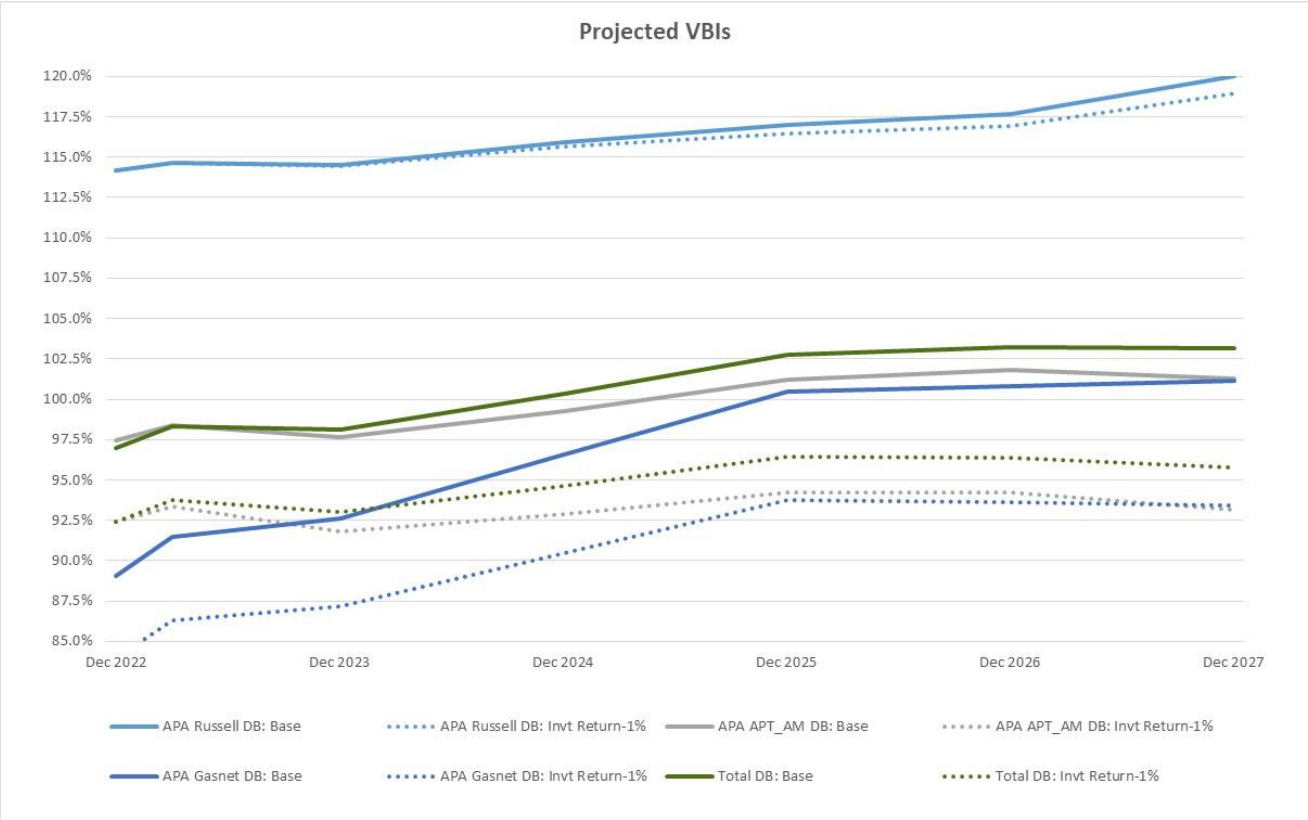
APA Gasnet DB	Contribution rate	Projected DB Assets $000s	Projected DB Vested Benefits $000s	Projected DB VBI
31 December 2022 (actual)		36,507	40,998	89.0%
31 March 2023 (actual)		37,419	40,909	91.5%
31 December 2023	13.2% p.a. (to 30/6/2023), 27.1% p.a. + $150k p.m. (from 1/7/2023)	38,707	41,785	92.6%
31 December 2024	27.1% p.a. + $150k p.m.	40,997	42,439	96.6%
31 December 2025	27.1% p.a. + $150k p.m.	43,303	43,103	100.5%
31 December 2026	27.1% p.a.	44,024	43,682	100.8%
31 December 2027	27.1% p.a.	44,540	44,037	101.1%

Total DB sections	Contribution rate	Projected DB Assets $000s	Projected DB Vested Benefits $000s	Projected DB VBI
31 December 2022 (actual)		127,406	131,368	97.0%
31 March 2023 (actual)		130,266	132,462	98.3%
31 December 2023	As above	130,297	132,768	98.1%
31 December 2024	As above	131,881	131,408	100.4%
31 December 2025	As above	133,785	130,217	102.7%
31 December 2026	As above	132,875	128,735	103.2%
31 December 2027	As above	130,169	126,148	103.2%

The above tables show that the recommended employer contribution rates are projected to be adequate to maintain a VBI of at least 100% for the APA Russell DB section over the next 5 years, and to return the APA APT_AM DB and APA Gasnet DB sections to a satisfactory financial position over the next 3 years, assuming experience is in line with assumptions.

7.3.1 Sensitivity of results

To give an indication of the sensitivity of the results, the chart and tables below project the VBI of the different sections of the Plan with the same contribution levels as above (i.e. as set out in section 7.2.5 above) but assuming the investment return on the Plan assets is 1% lower, that is 5.0% p.a. (net of tax).



Sensitivity basis: Investment return 1% p.a. lower

APA Russell DB	Contribution rate	Projected DB Assets $000s	Projected DB Vested Benefits $000s	Projected DB VBI
31 December 2022 (actual)		19,344	16,946	114.1%
31 March 2023 (actual)		19,549	17,051	114.6%
31 December 2023	8.0% p.a. (to 30/6/2023), 6.0% p.a. (from 1/7/2023)	18,603	16,257	114.4%
31 December 2024	6.0% p.a.	17,702	15,309	115.6%
31 December 2025	6.0% p.a.	16,857	14,473	116.5%
31 December 2026	6.0% p.a.	16,267	13,915	116.9%
31 December 2027	6.0% p.a.	15,066	12,668	118.9%

Sensitivity basis: Investment return 1% p.a. lower

APA APT_AM DB	Contribution rate	Projected DB Assets $000s	Projected DB Vested Benefits^ $000s	Projected DB VBI
31 December 2022 (actual)		71,555	77,450	92.4%
31 March 2023 (actual)		73,299	78,495	93.4%
31 December 2023	11.0% p.a. (to 30/6/2023), 23.8% p.a. + $100k p.m. (from 1/7/2023)	72,364	78,802	91.8%
31 December 2024	23.8% p.a. + $100k p.m.	71,729	77,225	92.9%
31 December 2025	23.8% p.a. + $100k p.m.	71,337	75,700	94.2%
31 December 2026	23.8% p.a.	69,465	73,707	94.2%
31 December 2027	23.8% p.a.	66,665	71,561	93.2%

Sensitivity basis: Investment return 1% p.a. lower

APA Gasnet DB	Contribution rate	Projected DB Assets $000s	Projected DB Vested Benefits^ $000s	Projected DB VBI
31 December 2022 (actual)		36,507	43,481	84.0%
31 March 2023 (actual)		37,419	43,371	86.3%
31 December 2023	13.2% p.a. (to 30/6/2023), 27.1% p.a. + $150k p.m. (from 1/7/2023)	38,437	44,097	87.2%
31 December 2024	27.1% p.a. + $150k p.m.	40,342	44,587	90.5%
31 December 2025	27.1% p.a. + $150k p.m.	42,225	45,046	93.7%
31 December 2026	27.1% p.a.	42,490	45,399	93.6%
31 December 2027	27.1% p.a.	42,524	45,526	93.4%

^ For these sensitivities, vested benefits for pensioners have been valued using the 1% p.a. lower investment return

Sensitivity basis: Investment return 1% p.a. lower

Total DB sections	Contribution rate	Projected DB Assets $000s	Projected DB Vested Benefits^ $000s	Projected DB VBI
31 December 2022 (actual)		127,406	137,877	92.4%
31 March 2023 (actual)		130,266	138,917	93.8%
31 December 2023	As above	129,405	139,156	93.0%
31 December 2024	As above	129,773	137,121	94.6%
31 December 2025	As above	130,419	135,218	96.5%
31 December 2026	As above	128,221	133,021	96.4%
31 December 2027	As above	124,256	129,754	95.8%

^ For these sensitivities, vested benefits for pensioners have been valued using the 1% p.a. lower investment return

We observe that with a 1% lower investment return, the APA APT_AM DB and APA Gasnet DB sections are estimated to remain in an unsatisfactory financial position over the next 5 years. We have estimated that the recommended employer contributions would need to increase, with effect from 1 July 2023, to at least the following if a 1% lower investment return was assumed:

- APA APT_AM DB: 24.0% p.a. of defined benefit members' salaries plus $270,000 per month
- APA Gasnet DB: 29.0% p.a. of defined benefit members' salaries plus $270,000 per month

7.4 Sensitivity Analysis

We have calculated the actuarial surplus of the Plan, assuming future investment returns of 5.0% p.a. (net of tax) instead of 6.0% p.a. (net of tax) with other assumptions unchanged.

5.0% discount rate	Value of assets ($'000)	Accrued benefits[1] ($'000)	Accrued Benefits Index (ABI)
APA Russell DB	17,650.3	15,494.6	113.9%
APA APT_AM DB	71,555.4	81,009.0	88.3%
APA Gasnet DB	36,507.2	49,082.6	74.4%
Total Plan	**125,712.9**	**145,586.2**	**86.3%**

1 After a minimum of vested benefits at the individual member level has been applied, and excluding pure accumulation accounts

On this basis, the Plan's net surplus falls by approximately $66,000 for the APA Russell DB section, and the Plan's net deficit increases by $5,699,000 for the APA APT_AM DB section, and by $4,999,000 for the APA Gasnet DB section.

We have also calculated the actuarial surplus of the Plan, assuming the rate of eligible members electing a pension rather than a lump sum benefit increases from 75% to 100%, with other assumptions unchanged (including the discount rate remaining at 6.0% p.a. net of tax).

100% pension take-up	Value of assets ($'000)	Accrued benefits[1] ($'000)	Accrued Benefits Index (ABI)
APA Russell DB	17,650.3	15,428.5	114.4%
APA APT_AM DB	71,555.4	77,024.4	92.9%
APA Gasnet DB	36,507.2	46,646.9	78.3%
Total Plan	**125,712.9**	**139,099.8**	**90.4%**

[1] After a minimum of vested benefits at the individual member level has been applied, and excluding pure accumulation accounts

On this basis, the Plan's net deficit increases by approximately $1,715,000 for the APA APT_AM DB section, and by $2,563,000 for the APA Gasnet DB section.

AASB 1056 requires the Trustee to show sensitivities for accrued benefits (defined benefit member liabilities) in the financial statement notes.

Accordingly, we have shown the value of accrued benefits (before vested benefit minimums) for defined benefit members based on changes in the key assumptions in the following table.

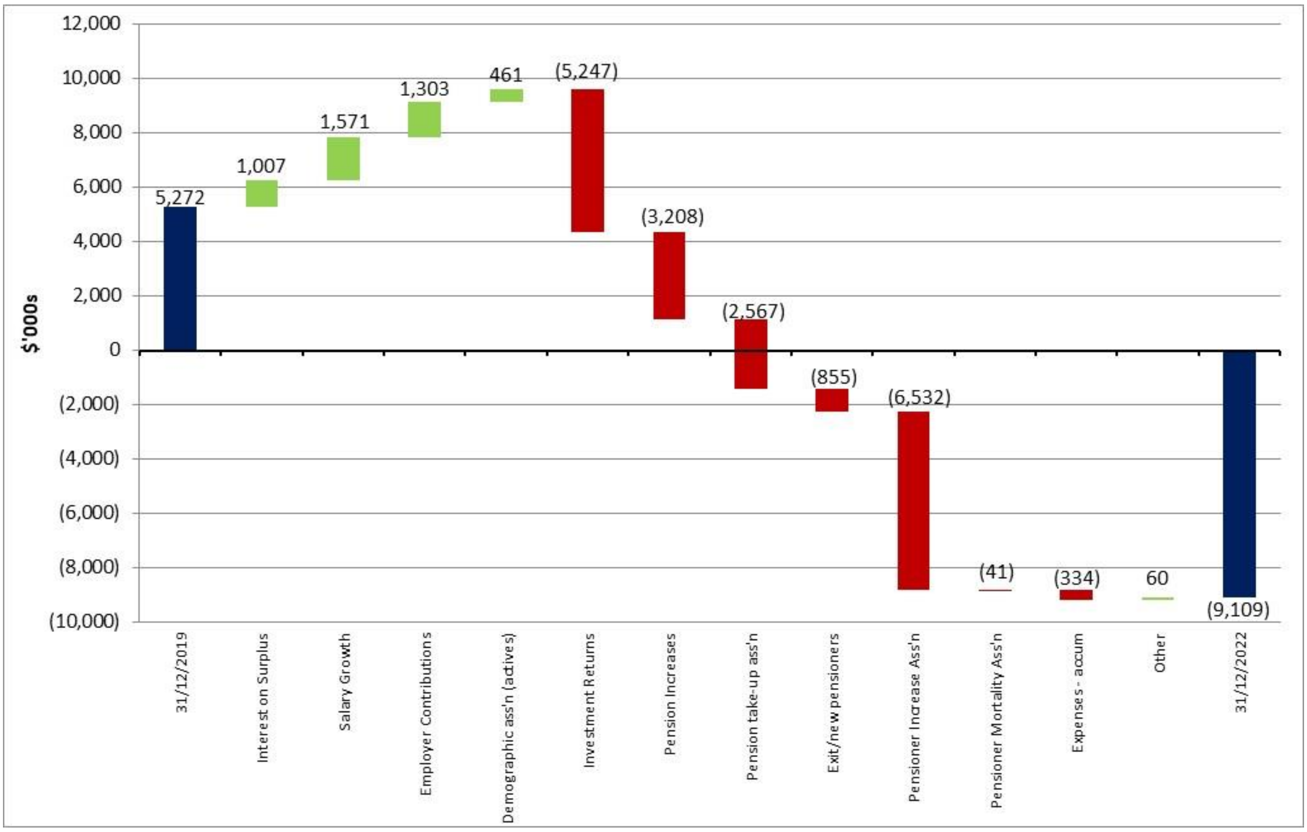
Sensitivities	31 December 2022 ($000s)	Increase/(Decrease) in Accrued Benefits Liability ($000s)
Base Case	131,378.1	-
Discount Rate +1%	121,826.7	(9,551.4)
Discount Rate -1%	143,061.2	11,683.1
Salary Increase Rate +1%/ Pension Increase Rate +1%	143,238.8	11,860.7
Salary Increase Rate -1%/ Pension Increase Rate -1%	121,552.0	(9,826.1)
Pensioner Mortality 10% lower rates	132,490.0	1,111.9

The variations selected in the above sensitivity analyses do not indicate upper or lower bounds of all possible outcomes.

7.5 Analysis of change in financial position

The following chart summarises our analysis of the change in excess of assets over past service liabilities between 31 December 2019 and 31 December 2022.

Analysis of change of Surplus of Assets over Past Service Liabilities ($'000)



From the analysis above, this result has been mainly due to the following:

Positive Factors:

- Earnings on the previous surplus position at 31 December 2019
- Lower than expected salary growth over the period
- Employer contributions paid being higher than the cost of accruing benefits
- Change in retirement rate assumptions for APA APT_AM DB and APA Gasnet DB sections of the Plan

Negative Factors:

- Lower than expected investment returns over the period
- Higher than expected pension increases over the period, as well as a known increase of 7% p.a. effective from 1 July 2023
- Increase in pension take-up assumption for eligible members
- Strain of a higher than expected proportion of eligible exiting members taking their benefit in pension form
- Increase in assumption for long-term future pension increases
- Change in assumed pensioner mortality basis
- Strain due to funding of administration expenses and insurance premiums for accumulation members from the defined benefit assets

7.6 Recommended employer contribution rates

In setting the recommended employer contributions, we have taken into account the requirements of SPS 160 which requires stricter management of defined benefit plans which are in an unsatisfactory financial position. The Plan is in an unsatisfactory financial position as a whole, and each of the APA APT_AM DB and APA Gasnet DB sections of the Plan are in an unsatisfactory financial position.

The requirements of SPS 160 very squarely ensure that the contributions of a defined benefit plan focus on retaining the VBI above 100%, or if it falls below 100%, then return it to 100% as soon as possible and, at the very least, within a period of no more than 3 years.

The recommended employer contributions below have been determined in order to restore or maintain the financial position of each section of the Plan to at least 100% by 31 December 2025, assuming that future experience is in line with assumptions.

Based on the approach and assumptions adopted for this report, we recommend that the Employer continue the current contribution rates until 30 June 2023, and then contribute at the revised contributions rates with effect from 1 July 2023. That is, we recommend that the Employer contribute to the Plan at least at the following rates until completion of the report on the next actuarial investigation:

- APA Russell DB: 8.0% p.a. of defined benefit members' salaries to 30 June 2023, and at 6.0% p.a. of defined benefit members' salaries from 1 July 2023; plus
- APA APT_AM DB: 11.0% p.a. of defined benefit members' salaries to 30 June 2023, and at 23.8% p.a. of defined benefit members' salaries plus $100,000 per month from 1 July 2023 to the later of 31 December 2025 and the restoration of the APA APT_AM DB section to a satisfactory financial position, and thereafter at 23.8% p.a. of defined benefit members' salaries; plus

- APA Gasnet DB: 13.2% p.a. of defined benefit members' salaries to 30 June 2023, and at 27.1% p.a. of defined benefit members' salaries plus $150,000 per month from 1 July 2023 to the later of 31 December 2025 and the restoration of the APA Gasnet DB section to a satisfactory financial position, and thereafter at 27.1% p.a. of defined benefit members' salaries; plus
- Member contributions which are paid by the employer under "salary sacrifice" or "deemed" arrangements.

Alternative contribution arrangements which may be more suitable to the Employers' circumstances may be considered subject to actuarial advice that they are broadly equivalent to the above contribution rates, and subject to SPS 160 requirements.

In addition we recommend that:

- the Trustee obtain actuarial advice on an annual basis to confirm that the recommended additional contributions for the APA APT_AM DB and APA Gasnet DB sections remain adequate for the purposes of returning those sections to a satisfactory financial position by 31 December 2025, as part of monitoring the restoration plan for the Plan;
- the Plan's financial position is monitored on a quarterly basis to ensure the continued appropriateness of the Plan contribution rates to restore and then maintain a Vested Benefits Index of at least 100%; and
- these recommendations be reviewed where the Plan undergoes significant changes to its membership or benefit basis, or there is a substantial reduction in the value of the Plan's investment portfolio.

The recommended employer contributions will be next reviewed as part of the next triennial actuarial investigation of the Plan (expected as at 31 December 2025 given that an exemption from the requirement for annual valuations has been obtained from APRA).

We have addressed the requirements of paragraph 31 of SPS 160 as part of this report, and our recommended employer contributions are designed to return the Plan, and each defined benefits section, to a satisfactory financial position (and to then maintain that position) over the period to 31 December 2025. Following receipt of this report, the Trustee should develop and approve a restoration plan in this regard.

8 Insurance arrangements

8.1 Death and TPD

8.1.1 Self Insurance

8.1.1.1 Background

Self-insurance is provided in respect of CA and CB members in the APA APT_AM DB and APA Gasnet DB sections of the Plan due to the difference between the Plan's definition of "Disablement" in Rule A3.1.2 and the insurer's definition of "total and permanent disablement (TPD)". This relates to self-insurance which was transferred to the Plan as part of the successor fund transfer from Equipsuper, where the Equipsuper Trustee has a variation in its RSE licence which allows for self-insurance of disablement benefits where "disablement satisfies the fund's definition of disablement but not the definition as contained in the life policies issued to the trustee from a company registered under the Life Insurance Act 1995". This applies to Categories CA and CB members transferred from Equipsuper, comprising 28 defined benefit members as at 31 December 2022. These categories are closed to new members and therefore the self-insured arrangement only applies to these closed membership groups.

We understand that to the extent possible, all death and disablement benefits of the Plan are externally insured. This insurance substantially mitigates the risk of having to rely upon the self-insurance reserve, although MLC Limited has confirmed that the disablement definition grandfathered in the Participation Agreement is unable to be insured.

The Employer ultimately bears the self-insurance risk, as a disablement claim in respect of a defined benefit member which is not covered by the external TPD insurance will affect the overall funding position of the defined benefit section of the Plan due to lower assets being available to support the benefit entitlements of remaining defined benefit members. Any resulting funding shortfall would be taken into account in a review of the employer contributions needed to fund the defined benefit sections in the Plan. A clause has been included into the Participation Agreement that requires the employer to contribute to the self-insurance reserve to fund 'Self Insurance Expenses'.

Paragraph 36 of SPS 160 requires the Trustee to:

- maintain reserves to fund current and future self-insurance liabilities for the Plan; and
- attest annually that, in formulating and maintaining its policy in relation to self-insurance, the Trustee continues to act in the best interests of beneficiaries.

8.1.1.2 Provision required

We have retained the same methodology for determining the self-insurance provisions required as that used in the previous valuation. That is, we have:

(i) Estimated the number of potential TPD claims if members remain until age 65, based on the insurer's TPD premium rates;
(ii) Assumed additional disablement claims that are not TPD of about 50% of the estimated potential TPD claims; and
(iii) Assumed claim amounts are equal to the average disablement insured amount.

Using this approach, based on membership as at 31 December 2022, we estimate that less than one disablement claim (about 0.5 claims) is likely to arise in future which would not be covered by external insurance. Given there were no disablement claims which were not TPD in Equipsuper in the ten years prior to successor fund transfer to the Plan and that there have been no disablement claims which were not TPD in the Plan, and noting the small number of category CA and CB members, we believe it is appropriate to reserve for 1 claim, noting that in the event of an actual self-insured claim, any shortfall in the self-insurance reserve could be financed by the assets backing the defined benefit entitlements of the relevant sections.

Accordingly, we believe that an appropriate provision for future disablement claims that are not TPD and so not covered by external insurance (based on membership as at 31 December 2022) is $114,000, based on 1.0 disablement claims arising over the future service of current members using an average disablement insured amount of $114,000.

At 31 December 2022, the self-insurance reserve held within the Plan was $296,732, which satisfies the above recommendation.

Therefore, we recommend that the Trustee continue to hold a self-insurance reserve of at least $114,000 for the Plan, where this is split $29,000 in respect of the APA APT_AM DB plan and $85,000 in respect of the APA Gasnet DB plan.

A variation in rates of disablement claims other than TPDs, compared to that assumed, emerges as adverse or beneficial experience that affects the funding position of the APA APT_AM DB and APA Gasnet DB sections of the Plan.

As the self-insurance within the Plan relates to a definitional difference in disability, we believe that the risk of a catastrophe causing a significant strain on the funding position of the Plan is very small. Therefore, we believe that the current self-insurance arrangements in the Plan are sustainable without the Trustee having to investigate the potential purchase of external catastrophe insurance.

The self-insured risk being covered within the Plan is relatively low, and therefore the experience of one or more disablement benefit claims not covered by TPD insurance which total more than $100,000 in excess of the corresponding members' vested benefits would warrant an interim review of the self-insurance arrangements before the next triennial actuarial investigation to confirm that there are no material impacts of the funding position of the Plan. Further, we recommend that the adequacy of the self-insurance reserve be reviewed by the actuary annually.

In conclusion, we believe that the self-insurance arrangements continue to be fully funded and in the best interests of beneficiaries.

8.1.2 External Insurance

Insurance cover in respect of the unfunded portion of death and total and permanent disablement (TPD) benefits is provided by MLC Limited.

The primary objective of the insurance cover is to provide funding for the difference between the total benefit payable and the amount deemed to have accrued in the Plan on behalf of the member. Insurance cover also protects the Plan from adverse mortality and disability experience.

For defined benefit members, we understand that the formula which is currently in use to determine the sum insured for death and lump sum TPD benefits is: Sum Insured = Death/TPD Benefit – Vested Benefit

The tables below show the overall death and TPD benefits and insurance levels as at 31 December 2022 for defined benefit members. For simplicity, the amounts in the tables exclude additional accounts subject to member investment choice.

APA Russell DB	**Death Benefits $000s**	**TPD Benefits $000s**
Total Benefits	21,400	20,600
less Insurance Amount	4,128	3,328
Amount at Risk	17,272	17,272
Plan assets	19,344	19,344
Excess/(shortfall)	**2,072**	**2,072**

APA APT_AM DB	**Death Benefits $000s**	**TPD Benefits $000s**
Total Benefits	44,132	42,974
less Voluntary accumulation accts	6,178	6,178
less Insurance Amount	3,640	2,482
Amount at Risk	34,314	34,314
Plan assets backing active members *	35,758	35,758
Excess/(shortfall)	**1,444**	**1,444**

APA Gasnet DB	**Death Benefits $000s**	**TPD Benefits $000s**
Total Benefits	17,349	16,534
less Voluntary accumulation accts	706	706
less Insurance Amount	2,783	1,968
Amount at Risk	13,860	13,860
Plan assets backing active members *	13,981	13,981
Excess/(shortfall)	**121**	**121**

* Excludes assets backing pensions in payment at 31 December 2022

This shows that the current insurance arrangements in respect of death and TPD benefits were adequate for the defined benefit sections of the Plan at 31 December 2022, given that the Amount at Risk was less than the assets for each section of the Plan.

We confirm that the current insurance arrangements are appropriate.

8.1.3 Insurance Recommendations

Taking into account the formula for calculation of death and TPD benefits, including maximums on the level of benefits, we recommend that the current insurance formulae continue going forward.

Appendix A: Summary of benefits

APA Russell DB section

CATEGORY C

A summary of the benefits provided under Russell Category C is set out below.

Definitions

Categories of Membership

There are 5 categories of membership

Category	Description
C1	Standard Members
C2	AGL Group/Gas Fund Transfers
C3	Division B transfers
C4	Division D transfers
C5	Casual members

Eligibility

Closed to new members

Normal Retirement Date

The member's 65th birthday.

Final Average Salary (FAS)

The greater of:

(a) the average of the member's earnings over the preceding 3 years; and

(b) the highest average annual rate of the member's earnings over any 3 consecutive years during the preceding 10 years.

Final Salary

The prospective Final Average Salary at age 65 assuming current salary remains unchanged.

Member Contributions

Members can contribute to the Plan in the following manner:

- Normal Contributions: 0%, or 5% of salary
- Special Contributions: If a member is making Normal Contributions equal to 5% of salary, the member may make Special contributions in multiples of 1% of salary up to a maximum of 5% of salary.
- Additional Contributions: If Normal and Special Contributions made by a member total 10% of salary, the member may elect to contribute additional contributions in any multiple of 1% of salary.

Employer Contributions

The Employer is to contribute to the Plan in such amounts as it considers necessary to maintain the level of benefits payable from the Plan (upon considering the advice of the Actuary).

Member Contribution Account

The total of the member's contributions plus credited interest. Expenses and tax may be deducted.

Additional Employer Account

Accumulation of additional notional employer contributions (Category C4 only) to make up for the shortfall between the standard benefits payable by this Plan and the benefit the member would have received had they remained a member of certain public sector funds. Contributions are accumulated with interest less tax.

Compulsory Contribution Account

Accumulated Superannuation Guarantee Charge contributions made by the Employer in respect of the member accumulated with interest less tax.

Surcharge Account

Any surcharge liability paid by the Plan, accumulated with interest.

Benefits - Categories C1, C2, C3 and C4

Leaving Service Benefit

On resignation or retirement prior to age 65 the benefit payable is the sum of.

- the Member Contribution Account
- 11.5% (subject to a minimum of NC%) x FAS x YCM x Discount
- NC% x FAS x YNM x Discount
- CFBM (Old) x FAS (category C2 only) x Discount
- BBM x FAS (category C2 only) x Discount
- Additional Employer Account x AEA vesting factor (category C4 only)
- Rollover Account

Less

- Surcharge Account

where:

Discount = 1 minus 1/12 of 2% for each month that age at date of leaving service precedes age 60, with a maximum reduction of 25%.

YCM = Years (with part years counting) as a contributory member.

YNM = Years (with part years counting) as a non-contributory member.

NC% = Non-contributory benefit multiple of:

5.4% from 1 July 1994 to 30 June 1995

6.5% from 1 July 1995 to 30 June 1998

7.6% from 1 July 1998 to 30 June 2000

8.7% from 1 July 2000 to 30 June 2002

9.8% from 1 July 2002 to 30 June 2013

10.0% while the SG rate is 9.25%

10.3% while the SG rate is 9.5%

10.8% while the SG rate is 10.0%

11.4% while the SG rate is 10.5%

11.9% while the SG rate is 11.0%

12.5% while the SG rate is 11.5%

13.0% while the SG rate is 12.0%

CFBM (Old) = Company Financed Benefit multiple at 1 January 1996 (for Group Fund transfers) and at date of transfer for Gas Fund transfers.

BBM = Buy back multiple at date of calculation. The buyback multiple accrues for eligible members who make Special Contribution.

AEA Vesting Factor = Factor according to the member's age as follows:

Age	Factor
Up to age 55	Member specific fixed rate
55-60	1.0
60+	0.0

Death or Total and Permanent Disablement Benefit:

On death or total and permanent disablement the benefit payable is the sum of:

- the Leaving Service Benefit, as determined above, but with no reduction applied for members under the age of 60; and
- 15% (for Contributors) or 5% (for Non-contributors) of Final Salary multiplied by years of future membership to age 65.

Members of Categories C2 and C3 are subject to minimum death benefits, and Category C2 members to minimum TPD benefits. These minimum benefits are as follows:

Category C2

- Death Minimum benefit is death benefit calculated at 1 January 1996 for Group Fund transfers and at date of transfer for Gas Fund transfers under the pre 1993 rules and updated with interest to date of death.
- TPD minimum benefit is TPD benefit calculated at 1 January 1996 for Group Fund transfers and at Date of transfer for Gas Fund transfers under the pre 1993 rules.

Category C3

If the member is aged less than 55,

Minimum Death Benefit = Death Benefit Factor x Salary + Rollover

If the member's age is greater than 55 the Death Benefit Factor is reduced by 1 for each complete year by which the member's age exceeds age 55 (subject to a minimum Death Benefit Factor of nil)

where Death Benefit Factor is 5 for previous Division B Category A members and 7 for previous Division B Category B members.

Benefits - Category C5

All benefits for Category C5 are equal to the balance of the Compulsory Contribution Account.

CATEGORY G

A summary of the benefits provided under Russell Category G is set out below.

Definitions

Eligibility

Closed to new members

Normal Retirement Date

The member's 65th birthday.

Salary

The annual rate of remuneration paid to an employee but does not include overtime, bonuses, commission, shift allowances and other emoluments of a similar nature. Further, it does not include additional remuneration paid for additional duties carried out temporarily by a Member.

Final Average Salary (FAS)

The greater of:

(a) the average annual rate of remuneration of the member during the three years preceding the date of calculation; and

(b) the average annual rate of remuneration of the member during any three consecutive years of service preceding the date of calculation.

Final Salary

The prospective Final Average Salary at age 65 assuming current salary remains unchanged.

Member Contributions

Members can contribute to the Plan in the following manner:

- Normal Contributions:
  0%, 3%, 4% or 5% of salary
- Special Contributions:
  If a member is making Normal Contributions equal to 5% of salary, the member may make Special contributions in multiples of 1% of salary up to a maximum of 5% of salary.
- Additional Contributions:
  If Normal and Special Contributions made by a member total 10% of salary, the member may elect to contribute additional contributions in any multiple of 1% of salary.

Member's Contribution Accumulation

The Member's Contribution Accumulation is equal to the member's contributions to the Plan increased with credited interest as determined by the Trustee.

Compulsory Contribution Account

The Compulsory Contribution Account is equal to the accumulation of contributions made under various Awards and in accordance with the Superannuation Guarantee Act, less tax, updated with credited interest as determined by the Trustee.

Company Financed Benefit

The Company Financed Benefit is equal to a multiple of the Member's Final Average Salary. The multiple is based upon the member's contribution history and is determined in the following manner:

- 2 x ACP (for contributions up to 1 March 1989); plus
- 1.7 x ACP (for the period from 1 March 1989 up to 1 January 1993); plus
- for each Superannuation Guarantee charge period, the Defined Benefit Multiple x ACP (for that period),

where:

ACP is equal to the Member's Aggregate Contribution Percentage which is the sum of:

- The rates of Normal Contribution adopted by the member multiplied by the period of contributory membership at each rate;
- The rates of Special Contribution adopted by the member multiplied by the period of contributory membership at each rate.
- subject to a maximum of 6% times the total period of service with the Company between 8 January 1954 and 31 December 1976, plus 5% times any other periods of service.

Defined Benefit Multiple

Determined by the table below with reference to the level of charge percentage as specified in the SG Act.

Charge Percentage	Defined Benefit Multiple
5	1.3
6	1.1
7	0.9
8	0.7
9	0.5
9.25	0.45
9.5	0.4
10	0.3
10.5	0.2
11	0.1
11.5	0.0
12	0.0

Benefits

Normal Retirement Benefit

The benefit payable on normal retirement is equal to the sum of the following:

- Company Financed Benefit;
- Member's Contribution Accumulation; and
- Compulsory Contribution Account.

Retirement Prior to Normal Retirement Date

Members may retire at their own option within five years of their Normal Retirement Date. Female members who were members on 31 December 1976 may retire at their own option within 10 years of their Normal Retirement Date.

The benefit payable is equal to the Member's Normal Retirement Benefit.

Retirement After Normal Retirement Date

Where a member retires after the Normal Retirement date, the benefit is calculated as the greater of:

(a) the benefit calculated in the same way as the Normal Retirement Benefit, but calculated at the actual date of retirement; and

(b) the Normal Retirement Benefit increased by compound interest at the crediting rate as determined by the Trustee.

Death Benefit

Temporary or Casual Employees (other than Previously Contributory)

On death the benefit payable is an amount equal to the Compulsory Contribution Account.

Non Contributory Members

On death the benefit payable is an amount equal to the sum of:

- the Compulsory Contribution Account;
- 5% x Final Salary x YFS;

where:

YFS = years and fractions of a year between the date of death and the member's Normal Retirement Date.

Provided that if the member was a member of the predecessor Fund at 1 January 1993, the benefit shall not be less than the sum of:

- once times Salary; and
- the Deemed Productivity Accumulation Account.

Previously Contributory Members

On death the benefit payable is an amount equal to the sum of:

- the Member's Contribution Account; and
- the Compulsory Contribution Account; and
- the Company Financed Benefit; and
- 5% x Final Salary x YTS

Provided that if the member was a member of the predecessor Fund at 1 January 1993, the benefit shall not be less than the sum of:

- the Member's Contribution Accumulation; and
- the greater of:
  (a) once times Salary; and

(b) the Company Financed Benefit; and

- the Deemed Productivity Accumulation Account.

Contributory Members

An amount equal to the sum of:

- the Member's Contribution Accumulation; and
- the Compulsory Contribution Account; and
- the Company Financed Benefit; and
- 15% x Final Salary x YFS

Provided that if a member was a member of the predecessor Fund at 1 January 1993, the benefit shall not be less than the sum of:

- the Member's Contribution Accumulation; and
- the Deemed Productivity Accumulation Account; and
- four times salary; and
- NCR x Salary x t

where:

NCR = The member's Normal Contribution Rate at the date of death.

t = Complete years between the member's date of death and the Member's Normal Retirement Date

Total and Permanent Disablement Benefit

Temporary or Casual Employees (other than Previously Contributory)

On disablement, the benefit payable is an amount equal to the Compulsory Contribution Account.

Non Contributory Members

An amount equal to the sum of:

- the Compulsory Contribution Account; and
- 5% x Final Salary x YFS

where:

YFS = years and fractions of a year between the date the member is declared Totally and Permanently Disabled and the member's Normal Retirement Date.

Provided that if the member was a member of the predecessor Fund at 1 January 1993, the benefit shall not be less than the sum of:

- 2.5% x Final Salary x t; and
- the Deemed Productivity Accumulation Account.

where

t = The period of service measured in years and fractions of a year to the nearer month which the member would have completed had the member continued in employment until the member's Normal Retirement Date, subject to a maximum of 40 years.

Previously Contributory Members

An amount equal to the sum of:

- the Member's Contribution Accumulation; and
- the Compulsory Contribution Account; and
- the Company Financed Benefit. and
- 5% x Final Salary x YFS

Provided that if the member was a member of the predecessor Fund at 1 January 1993, the benefit shall not be less than the sum of:

- the Member Contribution Accumulation; and
- the greater of:
  (a) once times Final Salary; and
  (b) the Company Financed Benefit; and
- the Deemed Productivity Accumulation Account.

Contributory Members

An amount equal to the sum of:

- the Member's Contribution Accumulation; and
- the Compulsory Contribution Account; and
- the Company Financed Benefit; and
- 15% x Final Salary x YFS

Provided that if the member was a member of the predecessor Fund at 1 January 1993, the benefit shall not be less than the sum of:

- the Member's Contribution Accumulation; and
- two times the Average Contribution Rate times Years of Contributory Membership times Final Salary; and
- three times the Average Contribution Rate times Years of Future Service times Final Salary; and
- the Deemed Productivity Accumulation Account

where:

Average Contribution Rate means the greater of:

(a) The member's Aggregate Contribution Percentage divided by the member's Years of Contributory Membership both calculated at the date that the member was declared to be Totally and Permanently Disabled; and

(b) The member's Aggregate Contribution Percentage divided by the member's Years of Contributory Membership both calculated as at the member's Normal Retirement Date assuming that the member's Normal Contribution Rate and Salary remained unchanged.

Years of Contributory Membership means the period of contributory membership of the Plan plus any additional contributory years purchased by Special Contributions made by the member. Years of Contributory Membership is subject to a maximum of the actual period of service with the Company.

Years of Future Service means years and fractions of a year between the date the member is declared Totally and Permanently Disabled and the member's Normal Retirement Date.

Retrenchment Benefit

If a member's service is terminated as a result of any reduction or re-organisation of the Company's staff and the member has completed ten or more years' service before the Normal Retirement Date, then the benefit payable is equal to the sum of:

- the Member's Contribution Accumulation; and
- the Company Financed Benefit; and
- the Compulsory Contribution Account.

Resignation Benefit

The sum of:

- the Member's Contribution Accumulation; and
- the Compulsory Contribution Account; and
- a percentage of the Company Financed Benefit.

This percentage is determined in the following manner:

Vesting Percentage = 0 if Vesting Number is less than 21;
= 2.5% x (Vesting Number - 20), if Vesting Number is between 20 and 60;
= 100% if Vesting Number is greater than 60.

where:

Vesting Number is equal to the number of complete years calculated as the sum of:

- the member's age at the date of cessation of employment calculated in years and months (to the nearer month); and
- the number of years and months in the Member's period of Contributory Membership taken to the nearer month.

Surcharge

Any Surcharge Liability in respect of a member is deducted from any benefit payment made.

APA APT_AM DB and APA Gasnet DB sections

A summary of the main benefit provisions in respect of defined benefit members is set out below.

Categories CA and CB

Members in categories CA and CB were formerly members of Classes D and F respectively of the former Gas and Fuel Superannuation Fund.

Category CA and CB benefits are the same except on death and disablement where the category CB benefit may be lower than the CA benefit.

Retirement age

Any time after the anniversary of entry date after reaching age 55.

Final salary (FS)

Annual rate of salary at date of calculation.

Member's contributions

5% of salary.

Adjusted total contributions (ATC)

The total contributions which would have been made by the member if the member's salary had always been equal to the member's salary at the date of termination of service.

Accrued retirement benefit (ARB)

Lump sum equal to 22% of FS for each year of membership to 1 September 1987 plus 21% of FS for each year of membership between 1 September 1987 and 30 June 1993 and 18% of FS for each year of membership thereafter (subject to a maximum multiple roughly equivalent to 40 years' accrual for members of the APA Gasnet DB section – no maximum applies for members of the APA APT_AM DB section).

Retirement benefit

A lump sum equal to the member's ARB at date of exit.

Death benefit

(a) With dependants

A lump sum equal to 22% of FS for each year of membership to 1 September 1987 plus 21% of FS multiplied by the total of the member's actual years of membership after 1 September 1987 and prospective years of membership to age 60 (or age at death if greater), with a maximum total benefit of 8.4 times FS for members of the APA Gasnet DB section. No maximum applies for members of the APA APT_AM DB section.

For category CB the benefit above is multiplied by a factor equal to membership as contributory member prior to death (maximum of 20 years) over potential contributory membership (maximum of 20 years).

(b) Without dependants

A reduced benefit is paid where there are no dependants.

Permanent disablement

A lump sum equal to 22% of FS for each year of membership prior to 1 September 1987, plus 21% of FS for membership between 1 September 1987 and 30 June 1993, plus 18% of FS for membership between 30 June 1993 and the date of termination, plus 21% of FS for prospective years of membership to age 60 (if any).

For Category CB the benefit above is multiplied by a factor equal to membership as contributory member prior to disablement (maximum of 20 years) over potential contributory membership (maximum of 20 years).

Retrenchment benefit

A lump sum equal to the member's ARB at date of exit.

Resignation benefit

A lump sum calculated as follows:

(a) Before age 50

The sum of:

(i) ARB at a date 5 years prior to resignation (based on current FS).

(ii) ATC for 5 years prior to resignation.

(iii) 3% x FS x period of membership since the date 5 years prior to resignation.

(b) After age 50

Lump sum blending from resignation benefit at 50 to retirement benefit at 55.

Categories OEA, OEB, OES and OETD

Members in categories OEA, OEB, OES and OETD were formerly members of the Boral Superannuation Plan.

Retirement age

Any time after reaching age 55 or after 30 years of service.

Final Average Salary (FAS)

Highest consecutive three-year average of Plan Salaries during the last 10 years of membership.

For TPD, plan salary is assumed to continue to age 62.

Member's contributions

For OEA, OEB and OES members, 5% of Plan Salary.

For OETD members, a percentage of 16%, 18% or 20% as nominated by the member. For these members, member contributions are 'deemed' to be 5% of Plan Salary for benefit purposes.

Retirement Multiple

- 16% (11% for any Memberflex period) x period that salary (or selection for OETD members) determines this percentage; plus
- 18% (13% for any Memberflex period) x period that salary (or selection for OETD members) determines this percentage; plus
- 20% (15% for any Memberflex period) x period that salary (or selection for OETD members) determines this percentage.

For OEA, OEB and OES members, the salary that determines which percentage applies is set by the employer and is indexed each year.

TPD Multiple

- 16% x period that salary (or selection for OETD members) determines this percentage (including prospective service to age 62); plus
- 18% x period that salary (or selection for OETD members) determines this percentage (including prospective service to age 62); plus
- 20% x period that salary (or selection for OETD members) determines this percentage (including prospective service to age 62).

For OEA, OEB and OES members, the salary that determines which percentage applies is set by the employer and is indexed each year

Accrued retirement benefit (ARB)

Lump sum equal to Retirement Multiple multiplied by FAS, plus additional accumulation accounts

Retirement benefit

A lump sum (members may convert 50% to a pension) equal to the member's ARB at date of exit.

Death benefit

A lump sum calculated in the same way as the Total and Permanent Disablement benefit.

Total and Permanent Disablement (TPD)

A lump sum equal to TPD Multiple, multiplied by FAS at age 62, plus additional accumulation balances. After age 62, the member's TPD benefit is equivalent to the retirement benefit.

Members may purchase additional top-up insurance cover on a voluntary basis.

Retrenchment/Serious Ill-health benefit

A lump sum equal to the member's ARB at date of exit, if the member is retrenched or suffering serious ill-health.

Resignation benefit

A lump sum equal to:

(i) The sum of the member's accounts including Member Account, Memberflex Account, Company Account and Companyflex Account; plus

(ii) For OETD members who have made an election of 16%, 18% or 20%, a benefit equal to the elected percentage multiplied by the period of that elected percentage multiplied by FAS; plus

(iii) additional accumulation balances.

A minimum SG benefit equal to the Minimum Requisite Benefits as defined by the actuary apply to all benefit types.

For a full description of all benefit provisions, refer to the Participation Agreement for the Plan.

Appendix B: Summary of Assumptions

Interest Rate Earned on Assets 6.0% p.a. compound (net of investment expenses and taxes)

6.5% p.a. compound (gross of investment taxes, but net of investment expenses)

Salary Increase Rate 3.0% p.a. compound (long-term)

Pension Increase Rate (CA & CB) 7% p.a. for first year, thereafter 2.5% p.a. compound (long-term)

Expenses Expenses of plan management (0.06% p.a. of assets), plus administration fee of $52 p.a. (indexed in line with CPI) per member (including pensioners).

Other expenses are assumed to be 0.40% p.a. of defined benefit members' salaries on average.

In addition, the cost of administration expenses and insurance premiums in respect of accumulation members have been assumed to be $110,000 per annum.

Taxation We have assumed that the current taxation environment will remain unchanged and that the Plan will remain a complying fund and therefore be entitled to concessional tax treatment.

Accordingly, future Employer contributions have been assumed to be taxed at 15%, after deduction of any insurance premiums and administration and management costs.

APA Russell DB

Rates of Mortality, TPD and Leaving Service Assumed rates at which members leave the Plan per year per 10,000 members are as follows:

Age	Death Male	Death Female	Disablement	Withdrawal
20	9.6	3.6	1.0	1,800
25	11.4	3.8	1.0	1,450
30	11.9	4.5	1.0	1,100
35	12.8	6.1	2.0	880
40	15.9	8.8	6.0	660
45	21.8	13.0	14.0	450
50	31.5	20.2	32.0	520
55	50.2	32.2	68.0	0
60	84.8	51.0	140.0	0

Rates of Retirement

Assumed rates at which members leave the Plan during the year on account of retirement per 10,000 members are as follows:

Age	Retirement
55	500
56	2,000
57	1,000
58	1,000
59	1,000
60	2,000
61	2,000
62	2,000
63	2,000
64	2,000
65	2,000
66	2,000
67	2,500
68	5,000
69	5,000
70	10,000

APA APT_AM DB and APA Gasnet DB

Rates of Mortality, TPD and Leaving Service

Assumed rates at which members leave the Plan per year per 10,000 members are as follows:

Age	Death	Disablement	Withdrawal
20	8	1	2,215
25	6	1	1,723
30	5	1	1,123
35	6	2	708
40	8	4	500
45	11	8	500
50	16	17	500
55	24	30	0
60	36	52	0
65	53	89	0
70	96	0	0

Rates of Retirement

Assumed rates at which members leave the Plan during the year on account of retirement per 10,000 members are as follows:

Age	Retirement
55	500
56	500
57	500
58	500
59	500
60	2,000
61	1,500
62	1,500
63	1,500
64	1,500
65	2,000
66	2,000
67	2,500
68	5,000
69	5,000
70	10,000

Where employer approval of an early retirement benefit is required, it is assumed that approval is granted for purposes of calculation of the present value of accrued benefits.

Pensioner Mortality

Australian Life Tables 2015/17, with a 2 year age reduction, and allowing for 25-year mortality improvement factors developed by the Australian Government Actuary up to 2041, and 100-year mortality improvement factors thereafter.

Take-up of Pension Benefits

75% of all retiring Category CA and CB members are assumed to elect to take their benefit in pension form (including reversions). 40% of spouses of members who die in service are assumed to take their benefit in pension form.

Appendix C: Statement required by SPS 160

APA Group Superannuation Plan, a sub-plan in the Plum Division of the MLC Super Fund

Summary of Information included in 31 December 2022 Actuarial Report pursuant to Paragraph 23 of SPS 160

We have carried out a valuation of the APA Group Superannuation Plan effective 31 December 2022. Paragraph 23 of SPS 160 prescribes the following matters to be contained in actuarial reports for private sector defined benefit superannuation plans:

1. For the purposes of comparison with vested benefits and accrued benefits and in the calculation of the long term Employer contribution rate, the net assets of the Plan supporting defined benefits have been valued as $125,712,900 at 31 December 2022. This excludes an amount of $297,000 which was separately held within the Plan as a self-insurance reserve at 31 December 2022, and also excludes an amount of $1,693,300 in respect of voluntary accumulation accounts in respect of APA Russell DB members.

2. Pursuant to SPS 160, the *"liabilities in respect of the accrued benefits of the members of the fund"* is the present value of the expected future benefits payable from the Plan to current members and their dependents in respect of membership completed to date. In our opinion, the assets valued at 31 December 2022 were insufficient to meet the defined benefit liabilities of the Plan in respect of accrued benefits of $134,821,800. We consider that the assumptions and valuation methods set out in this report are appropriate for determining the accrued benefit liabilities.

3. In our opinion, as at 31 December 2022, there was a high degree of probability (i.e. at least 70% as indicated by APRA as being the required probability) that the Plan will be able to pay the current pensioners as required under the Trust Deed and Rules. I expect this position will continue to be able to be certified during the period to 31 December 2025.

4. The Plan's assets are also inadequate to meet the liabilities of the Plan in respect of defined benefit Vested Benefits of $129,674,400 as at 31 December 2022. A plan is in an "*unsatisfactory*" financial position if the value of its assets is less than the value of the benefits payable if every member voluntarily left the Plan. Therefore, in our opinion, the Plan was in an unsatisfactory position at 31 December 2022. In our opinion, the shortfall limit does not need to be revised. Taking into account actual experience up to 31 March 2023 and known pension increases effective 1 July 2023, and assuming that:

   - There are no significant improvements to the benefits described;
   - Employer contributions are paid in accordance with the recommendations set out in the report on the actuarial valuation of the Plan at 31 December 2022; and
   - The future experience of the Plan is in accordance with the actuarial assumptions made at 31 December 2022;

   then we certify that:

   - the APA Russell DB section of the Plan will maintain a satisfactory financial position over the period to 31 December 2025;

- the APA APT_AM DB and APA Gasnet DB sections of the Plan will attain a satisfactory financial position by 31 December 2025; and
- the Plan as a whole will attain a satisfactory financial position by 31 December 2025.

5. Based on the results of this investigation, the recommended Employer contribution rates for defined benefit members in respect of the period from 1 January 2023 until completion of the report on the next actuarial investigation are at least:

- APA Russell DB: 8.0% p.a. of defined benefit members' salaries to 30 June 2023, and 6.0% p.a. of defined benefit members' salaries from 1 July 2023; plus
- APA APT_AM DB: 11.0% p.a. of defined benefit members' salaries to 30 June 2023, and 23.8% p.a. of defined benefit members' salaries plus $100,000 per month from 1 July 2023 to the later of 31 December 2025 and the restoration of the APA APT_AM DB section to a satisfactory financial position, and thereafter at 23.8% p.a. of defined benefit members' salaries (or an alternative contribution basis which the actuary advises is broadly equivalent to this contribution rate, having consideration of SPS 160 requirements); plus
- APA Gasnet DB: 13.2% p.a. of defined benefit members' salaries to 30 June 2023, and 27.1% p.a. of defined benefit members' salaries plus $150,000 per month from 1 July 2023 to the later of 31 December 2025 and the restoration of the APA Gasnet DB section to a satisfactory financial position, and thereafter at 27.1% p.a. of defined benefit members' salaries (or an alternative contribution basis which the actuary advises is broadly equivalent to this contribution rate, having consideration of SPS 160 requirements); plus
- Member contributions which are paid by the employer under "salary sacrifice" or "deemed" arrangements.

In addition we recommend that:

- the Trustee obtain actuarial advice on an annual basis to confirm that the recommended additional contributions for the APA APT_AM DB and APA Gasnet DB sections remain adequate for the purposes of returning those sections to a satisfactory financial position by 31 December 2025, as part of monitoring the restoration plan for the Plan;
- the Plan's financial position is monitored on a quarterly basis to ensure the continued appropriateness of the Plan contribution rate to restore and then maintain a Vested Benefits Index of at least 100%; and
- these recommendations be reviewed where the Plan undergoes significant changes to its membership or benefit basis, or there is a substantial reduction in the value of the Plan's investment portfolio.

6. Payment of Employer contributions as above, together with the net assets of the Plan and the expected earnings of the Plan over the period from 1 January 2023 to 31 December 2025 are expected to provide adequately for the expected liability during the period to 31 December 2025. They are also expected to fully provide for the liability at the end of that period in respect of both vested benefits and accrued benefits for the Plan as a whole.

7. The projected likely future financial position of the Plan during the three years following the valuation date, based on our best estimate assumptions used in the actuarial investigation of the Plan as at 31 December 2022 and the recommended Employer contributions above, is set out below.

Projected Date	Projected defined benefit assets ($'000)	Projected defined benefit vested benefits ($'000)	Projected defined benefit VBI
31 December 2022 (actual)	127,406	131,368	97.0%
31 March 2023 (actual)	130,266	132,462	98.3%
31 December 2023	130,297	132,768	98.1%
31 December 2024	131,881	131,408	100.4%
31 December 2025	133,785	130,217	102.7%

8. The Plan has not been granted a Pre-1 July 1988 funding credit, nor has it obtained such a credit by transfer.

9. A plan is "*solvent*" if the value of its assets exceeds the total of the Superannuation Guarantee component of each member's benefit. The Plan's assets are sufficient to meet the minimum benefits of the defined benefit members of the Plan of $112,174,200 as at 31 December 2022. Funding and Solvency Certificates for the Plan covering the period from 1 January 2020 to 31 December 2022 required by the Superannuation Industry (Supervision) Act have been provided. In our opinion, the solvency of the Plan will be able to be certified in any Funding and Solvency Certificate required under the Superannuation Industry (Supervision) Regulations during the three year period to 31 December 2025, based on the assumptions used in the actuarial investigation of the Plan as at 31 December 2022.

Diane Somerville, FIAA
28 June 2023

Andrew Boal, FIAA

Appendix D: AASB 1056 Statement

APA Group Superannuation Plan, a sub-plan in the Plum Division of the MLC Super Fund

Actuarial Statement pursuant to Australian Accounting Standard AASB 1056

The purpose of this statement is to provide the summary of the information contained in the Actuarial Report on the investigation of the Plan as at 31 December 2022, as required by AASB 1056. This statement has been prepared at the request of the Trustee of the Plan and is in accordance with the Professional Standards and Practice Guidelines (in particular PS402 and PG499.06) issued by the Institute of Actuaries of Australia.

Assets

After allowing for a self-insurance reserve of $297,000, the net asset value available to support the liabilities of defined benefit members at 31 December 2022 was $127,406,100. This includes only defined benefit members and accumulation balances in respect of defined benefit members where the member is not eligible to make an investment choice.

The above value of assets excludes $6,178,177 of voluntary accumulation account balances in respect of defined benefit members in the APA APT_AM DB section and $705,526 of voluntary accumulation account balances in respect of defined benefit members in the APA Gasnet DB section. However, it includes the value of voluntary accumulation balances in respect of APA Russell DB members of $1,693,264, as those balances were not subject to member investment choice at the valuation date.

These figures are not audited.

Vested Benefits

Vested benefits are the benefits to which members would be entitled if they voluntarily left service.

At the date of the actuarial investigation, the vested benefits were $131,367,600. This includes only defined benefit members and excludes $6,178,177 of voluntary accumulation account balances in respect of defined benefit members in the APA APT_AM DB section and $705,526 of voluntary accumulation account balances in respect of defined benefit members in the APA Gasnet DB section. However, it includes the value of voluntary accumulation balances in respect of APA Russell DB members of $1,693,264, as those balances were not subject to member investment choice at the valuation date.

The ratio of the net market value of the Plan's assets to total defined benefit vested benefits was 97.0% at 31 December 2022, which indicates an unsatisfactory coverage of vested benefits as at the date of the actuarial investigation.

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Accrued Benefits

The value of the accrued benefits is the present value of the expected future benefits payable from the Plan to current members, but only in respect of Plan membership completed up to the date of the actuarial investigation. Calculation of future retirement benefits use the normal retirement benefit formula, taking into account membership to the date of the actuarial investigation and using salary projected to the date of expected payment. We have not applied a minimum of vested benefits (at individual or total level) in the calculation of accrued benefits for the purposes of AASB 1056.

The value of the accrued death and total and permanent disablement benefits is determined to be the same proportion of the death (or disablement) benefit as the accrued retirement benefit bears to the retirement benefit at normal retirement date.

Leaving service benefits are partly based on the accumulation of contributions with interest. Accrued leaving service benefits are based on contributions credited up to the date of the actuarial investigation, but with interest and vesting projected to the expected payment date.

To determine the actuarial value of accrued benefits, assumptions are required concerning the potential experience of the Plan over the long term. The main assumptions used to determine the actuarial value of the accrued benefits at 31 December 2022 were:

- The future rate of investment return (net of investment management fees) earned on the Plan's assets would be 6.0% per annum (net of investment taxes) and 6.5% per annum (gross of investment taxes).
- The future rate of long-term salary increases, including promotional increases, would be 3.0% per annum.
- The future rate of pension increases would be 7.0% in the first year, and 2.5% p.a. thereafter.

The future rate of investment return used to determine the accrued benefits is the anticipated rate of return on the Plan's assets over the average expected term of the benefit liabilities, calculated to be approximately 11 years.

All other assumptions used, including demographic assumptions, are considered to be best estimate assumptions, with no allowance for conservatism.

The total value of accrued benefits for AASB 1056 purposes at 31 December 2022 was $131,378,100. This includes only defined benefit members, and excludes $6,178,177 of voluntary accumulation account balances in respect of defined benefit members in the APA APT_AM DB section and $705,526 of voluntary accumulation account balances in respect of defined benefit members in the APA Gasnet DB section.

The ratio of the assets to the value of the total accrued benefits (for AASB 1056 purposes) was 97.0% at 31 December 2022 in respect of the defined benefit liabilities. The assets were therefore insufficient to meet the value of the liabilities of the Plan in respect of accrued benefits.

The Plan's funding policy is intended to fully cover benefits by the time that they become payable. The method of funding benefits adopted is the Attained Age Normal method. This funding method aims to spread the cost of future benefits for current members evenly over their future working lifetimes. Under this funding method the employer contribution rate is determined as the rate required to meet benefits in respect of future membership of the Plan, adjusted for any deficit (or surplus) of assets compared to accrued benefit liabilities at the valuation date. In addition, for the valuation at 31 December 2022, a target of 100% of the members' vested benefits was adopted.

Sensitivities

AASB 1056 requires the Trustee to show sensitivities for accrued benefits (defined benefit member liabilities) in the financial statement notes.

Accordingly, we have shown the value of accrued benefits (before vested benefit minimums) for defined benefit members based on changes in the key assumptions in the following table.

Sensitivities	31 December 2022 ($000s)	Increase/(Decrease) in Accrued Benefits Liability ($000s)
Base Case	131,378.1	-
Discount Rate +1%	121,826.7	(9,551.4)
Discount Rate -1%	143,061.2	11,683.1
Salary Increase Rate +1%/ Pension Increase Rate +1%	143,238.8	11,860.7
Salary Increase Rate -1%/ Pension Increase Rate -1%	121,552.0	(9,826.1)
Pensioner Mortality 10% lower rates	132,490.0	1,111.9

The variations selected in the above sensitivity analyses do not indicate upper or lower bounds of all possible outcomes.

Recommended Employer Contributions

The recommended Employer contribution rates for defined benefit members in respect of the period from 1 January 2023 until completion of the next actuarial investigation (effective no later than 31 December 2025) are at least:

- APA Russell DB: 8.0% p.a. of defined benefit members' salaries to 30 June 2023, and 6.0% p.a. of defined benefit members' salaries from 1 July 2023; plus
- APA APT_AM DB: 11.0% p.a. of defined benefit members' salaries to 30 June 2023, and 23.8% p.a. of defined benefit members' salaries plus $100,000 per month from 1 July 2023 to the later of 31 December 2025 and the restoration of the APA APT_AM DB section to a satisfactory financial position, and thereafter at 23.8% p.a. of defined benefit members' salaries (or an alternative contribution basis which the actuary advises is broadly equivalent to this contribution rate, having consideration of SPS 160 requirements); plus
- APA Gasnet DB: 13.2% p.a. of defined benefit members' salaries to 30 June 2023, and 27.1% p.a. of defined benefit members' salaries plus $150,000 per month from 1 July 2023 to the later of 31 December 2025 and the restoration of the APA Gasnet DB section to a satisfactory financial position, and thereafter at 27.1% p.a. of defined benefit members' salaries (or an alternative contribution basis which the actuary advises is broadly equivalent to this contribution rate, having consideration of SPS 160 requirements); plus
- Member contributions which are paid by the employer under "salary sacrifice" or "deemed" arrangements.

In addition we recommend that:

- the Trustee obtain actuarial advice on an annual basis to confirm that the recommended additional contributions for the APA APT_AM DB and APA Gasnet DB sections remain adequate for the purposes of returning those sections to a satisfactory financial position by 31 December 2025, as part of monitoring the restoration plan for the Plan;
- the Plan's financial position is monitored on a quarterly basis to ensure the continued appropriateness of the Plan contribution rate to restore and then maintain a Vested Benefits Index of at least 100%; and
- these recommendations be reviewed where the Plan undergoes significant changes to its membership or benefit basis, or there is a substantial reduction in the value of the Plan's investment portfolio.

Financial Condition

In our opinion, the Plan was in an unsatisfactory financial condition at the date of the actuarial investigation.

In addition to the position reported above, the actuary projected the Plan's ongoing ability to meet both Vested Benefits and Accrued Benefits over the three years following the date of the investigation. This was undertaken on the basis that:

- the actuarial assumptions as to investment, salary inflation and membership turnover would apply over the next three years, and taking into account actual experience to 31 March 2023 and known pension increases effective 1 July 2023; and
- the Employer will contribute to the Plan at the recommended rates over the next three years.

In the light of the projections, it is anticipated that both Vested Benefits and Accrued Benefits will be covered by defined benefit assets of the Plan as a whole, and in respect of each section, by 31 December 2025.

Diane Somerville, FIAA

Andrew Boal, FIAA

28 June 2023