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GlencoreSuper

Actuarial Investigation as at 31 December 2021

Report date: 29 June 2022

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29 June 2022

NULIS Nominees (Australia) Ltd
Level 8, 347 Kent Street
SYDNEY NSW 2000

Attention: Andrew Nunn

GlencoreSuper – Actuarial investigation as at 31 December 2021

We are pleased to present the actuarial investigation of GlencoreSuper ("the Plan"), a sub-plan in the Plum Division of the MLC Super Fund ("the Fund") as at 31 December 2021 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 GlencoreSuper ("the Plan"). The Plan is a sub-plan in the Plum Division of the MLC Super Fund ("the Fund"), having been successor fund transferred from the Plum Superannuation Fund on 1 July 2016. This report presents the results of the actuarial investigation of the Plan as at 31 December 2021.

The purposes of this report are 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 160;
- Comment on any other matter considered relevant or as required under relevant Professional Standards of the Institute of Actuaries of Australia; and
- Comment and advise on any other matter considered relevant.

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, Guidance Notes 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.

Funding levels for defined benefits

In considering the financial position it is therefore appropriate to look at the funding levels for defined benefits only. In respect of the defined benefit liabilities, the funding ratios at 31 December 2021 are shown in the table below:

Funding Measure	Defined Benefit Assets ($'000)	Defined Benefit Liabilities ($'000)	Funding Ratio
Vested Benefits	1,772	697	254%
Value of Accrued Benefits[1]	1,772	718	247%

[1] Minimum of vested benefits at an individual member level have been applied.

The assets backing defined benefits were sufficient to meet the total vested benefits and the total of the present value of accrued benefits for defined benefit members at the valuation date.

The financial assumptions adopted for the purposes of this investigation are long term future investment returns of 6% p.a. (net of tax and investment fees) and assumed salary increases of 2% p.a.

Events since 31 December 2021

In the period since 31 December 2021, investment markets have been weaker. Based on information provided by the Plan's administrator, the Plan's funding ratio for Vested Benefits (the Vested Benefits Index or VBI) fell slightly to approximately 231% as at 31 March 2022, driven by a positive smoothed crediting rate applied to member accounts whilst the Plan assets suffered falls in investment returns in that quarter. Also, for the period between 31 March 2022 and 31 May 2022, the Plan's assets earned approximately -2.2%, which we expect will have resulted in the Vested Benefits Index falling slightly further but remaining above 200%.

We have considered the impacts of investment market movements since 31 December 2021 to the extent possible when considering our contribution recommendations. This is discussed further later in the report.

Superannuation guarantee and technical insolvency

The Employer's Superannuation Guarantee obligation is met in full for all members by the minimum benefits provided under the Plan. The current Benefit Certificate for the period from 1 April 2019 to 31 March 2024 was issued on 25 June 2019.

The current Funding and Solvency Certificate (issued on 25 June 2019) is effective from 1 April 2019. 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 1993 (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 2021, the Plan was solvent on this basis and, based on the assumptions in relation to vested benefits, 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 2024.

It is expected that a new Benefit Certificate and a new Funding and Solvency certificate will be issued following completion of this investigation.

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.

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.

The Trustee has set the shortfall limit at a level of 100% for the Plan and we confirm that the VBI was above the Trustee's shortfall limit as at 31 December 2021 and in the period since. We consider that this shortfall limit remains appropriate given the current and target asset allocation for the Plan and the nature of the liabilities.

The Plan is not self-insured and there are no specific SPS 160 requirements on the Trustee for annual attestation of the validity (or otherwise) of continuing self-insurance.

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.

1.3 Recommendations

Previous investigation

The previous actuarial investigation was conducted as at 31 December 2018. The report recommended the following:

- The Employer contribute at least nil for defined benefit members, for the period from 1 January 2019 to 31 December 2021, and at the rate of at least 20% p.a. of defined benefit members' salaries thereafter;
- the Plan's financial position is monitored on an annual basis to ensure the continued appropriateness of the Plan contribution rate to 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.

Current investigation

Based on the approach and assumptions set out in this report, the recommended Employer contribution rates for defined benefit members over the period from 1 January 2022 until completion of the actuarial investigation as at 31 December 2024 are:

- at least nil for defined benefit members;
- additional contributions are paid where a defined benefit payment is made from the Plan during a quarter when the Plan is in an unsatisfactory financial position (the amount of the additional payment would reflect the Plan's financial position and allow also for the payment of contributions tax):

  The following formula should be used for calculating top-up contributions:

  Top-up contribution = 1.18 x (1 – Latest VBI) x Benefit, where:

  - Latest VBI = the most recently available Vested Benefits Index as determined by the actuary on a quarterly basis
  - Benefit = the total benefit payable to the member before application of any taxes payable.

We also recommend that, subject to any administrative or legal constraints, the Trustee allow the Employer to meet up to $175,000 p.a. (net of tax) of employer contributions in respect of accumulation members in the Plan from the Plan's surplus assets, for a period of up to three (3) years, subject to annual confirmation from the Plan actuary that this remains appropriate (or alternative contribution holiday arrangements as agreed between the Trustee and the Employer, subject to confirmation from the Plan actuary that they are broadly equivalent to the above recommendation).

In addition, we recommend that:

- the Plan's financial position is monitored on a quarterly basis to ensure the continued appropriateness of the Plan contribution rate to 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.

Next valuation

The next valuation is required to be conducted at an effective date no later than 31 December 2024.

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

29 June 2022

2 Background

2.1 History

The Plan commenced as a sub-plan of the Plum Superannuation Fund, a predecessor fund of the MLC Super Fund, on 6 December 2004 as a consequence of the windup of the Previous Plan. We understand all defined benefit members' benefit entitlements under the previous plans were transferred to the Plum Plan. 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 Employer has advised the Plan is closed to new defined benefit members and all new employees joining the Plan are provided with accumulation benefits.

As a sub-plan 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 Schedule dated 23 November 2004 (as amended) between the Employer and PFS Nominees Pty Limited as the trustee of the Plum Superannuation Fund, which was novated across to the Trustee as part of the successor fund transfer.

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

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 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 SPS 160; and
- Comment on any other matter considered relevant or as required under relevant Professional Standards of the Institute of Actuaries of Australia; and
- Comment and advise on any other 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 where the benefit payable to a member is defined benefit in nature. The risk is that investment returns will be less than assumed and the Employer will need to increase contributions to offset this shortfall.

  However, currently the accumulation-based leaving service benefit is underpinning the benefits of both Plan members, and therefore the investment risk is predominantly borne by the members. Lower investment returns would be reflected through the Plan's crediting rates in changes to member's leaving service benefits (including Minimum Requisite Benefits) and this significantly dampens the effect for the Employer of lower than expected returns.

  For example, if the assumed future investment return was reduced by 1% p.a. with no change to other assumptions, the Plan's net surplus would remain relatively unchanged, as shown in the sensitivity analysis in section 7.3 of this report.

  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.

  Due to the accumulation underpins applying for the projected benefits for the defined benefit members in the Plan, the liabilities are not overly sensitive to salary increases unless they are significantly higher than expected. For example, the impact of an additional 1% p.a. salary increase would be expected to have no impact on the Plan's net surplus, and an additional 5% p.a. salary increase would be expected to result in the Plan's net surplus falling slightly by approximately $81,000. This is also reflected in the sensitivity analysis in section 7.3 of this report.

- ***Liquidity risk***

  Liquidity risk is borne by the Employer. The expected average term of the defined benefit liabilities is approximately 8 years. 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 assets are invested in an investment option together with the assets of many other funds and members, both accumulation and defined benefit based. Therefore, we expect that the current investment policy will provide an adequate level of liquidity for 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% to 12% progressively over the period from July 2021 to July 2025, with the next increase occurring with effect from July 2022. 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.

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 employer plans including the Plan.

2.5 Previous investigation

The previous actuarial investigation of the Plan was effective 31 December 2018 and was undertaken by Diane Somerville and Geoff McRae of Deloitte Actuaries & Consultants Limited, and the results set out in a report dated 25 June 2019.

The report on the previous actuarial investigation recommended the following:

- the Employer contributes at least nil for defined benefit members, for the period from 1 January 2019 to 31 December 2021, and at the rate of at least 20% p.a. of defined benefit members' salaries thereafter;
- the Plan's financial position is monitored on an annual basis to ensure the continued appropriateness of the Plan contribution rate to 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.

2.6 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 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.

As at 31 December 2021, the Plan was in a satisfactory financial position. It is expected that the Plan will maintain a satisfactory financial position over the period to 31 December 2024. Further details regarding future projections of the Plan's financial position are shown in Section 7 of this report.

The Trustee has set the shortfall limit at a level of 100% for the Plan and we confirm that the VBI was in excess of the shortfall limit as at 31 December 2021 and in the period since. We consider that this shortfall limit remains appropriate given the current and target asset allocation for the Plan and the nature of the liabilities.

The Plan is not self-insured and there are no specific SPS 160 requirements on the Trustee for annual attestation of the validity (or otherwise) of continuing self-insurance.

3 Data

3.1 Current data

We have obtained details of the membership of the Plan at 31 December 2021 from the administrator of the Plan, MLC Wealth Limited ("the Administrator"). At the valuation date there were 2 active defined benefit members with total annual salaries of $311,685. (This excludes 1 member who had ceased employment before 31 December 2021 but in respect of whom a benefit had not yet been paid from the Plan as at 31 December 2021.) The details are summarised below.

Category	Number of active members	Average Age (years)	Average Service (years)	Total Annual Salaries ($)	Average Annual Salary ($)
XSTA	2	57.0	32.0	311,685	155,843
Total	**2**	**57.0**	**32.0**	**311,685**	**155,843**

We have reconciled the movements in the defined benefit membership between 31 December 2018 and 31 December 2021 as follows:

Category	Number of members at 31 December 2018	Exits during period	Number of members at 31 December 2021
XSTA	3	(1)	2
XSTB	2	(2)	0
Total	**5**	**(3)**	**2**

Three members have exited the Plan since 31 December 2018, representing a decrease in membership by 60%.

We placed checks on the data to ensure that all dates, salaries and other amounts were reasonable. We are satisfied that the data provided is reasonable and correct.

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 investigation.

We were provided with the value of assets held as at 31 December 2021 and a reconciliation of cash flows from the previous investigation date (31 December 2018) up to 31 December 2021.

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.

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

4.2 Net market value

The net market value of Plan assets was advised to be $4,063,528 as at 31 December 2021. These assets were reduced by $1,348,381 to allow for an estimate of benefits payable as at 31 December 2021 in relation to one member who ceased employment before that date, to ensure that the assets and liabilities were treated consistently.

Hence, the net market value of Plan assets in relation to active defined benefit members was $2,715,147 as at 31 December 2021. This value includes the accumulation benefits of defined benefit members where members are not eligible for investment choice and therefore the assets backing these accumulation accounts are retained within the defined benefit pool of assets (an amount of approximately $942,783 at 31 December 2021).

After adjusting for the assets backing accumulation benefits of defined benefit members, we have used a value of $1,772,364 as at 31 December 2021 in respect of assets backing defined benefits only.

We have reviewed the asset and transaction details provided by the Administrator and we are satisfied they are appropriate for use in this investigation.

4.3 Investment strategy

The Trustee has developed formal objectives and a policy for the investment of the MLC Super 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 of the Plan.

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 backing defined benefit members are invested in the Active – Moderate portfolio (previously called JANA Moderate).

The benchmark asset allocation of the Active – Moderate portfolio includes approximately 68% 'growth' assets (equities, property, private equity and alternatives) and 32% 'defensive' assets (fixed interest, cash and infrastructure). It is shown in the table below.

Asset Class	Benchmark Allocation (%)
Equities	53%
Property	6%
Private equity	5%
Alternatives	4%
Infrastructure	6%
Fixed interest	19%
Cash	7%
Total	**100%**

Based on information received from the Administrator, we understand that the Plan's actual allocation was reasonably close to the benchmark allocation as at 31 December 2021.

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 68%) is similar to other superannuation funds of a similar size. Therefore, in our opinion, the current investment strategy is appropriate at this time, 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.

However, it is important to bear in mind that the leaving service benefits (and Minimum Requisite Benefits) in the Plan are based on a multiple of various member account balances, and therefore are wholly accumulation in nature. Therefore, any changes in the investment strategy for the Plan will also have consequential impacts on future member benefits through the crediting rate applied to member account balances. We note that at the valuation date, the accumulation benefit underpins were applying to both Plan members, and this is projected to remain the case if experience is in line with the assumptions used in this investigation, i.e. the accumulation-based leaving service benefits are projected to be higher than the expected retirement benefits.

4.4 Investment performance

During the period to 31 December 2021 the rate of return earned on the Plan's assets, net of tax and investment management fees, were estimated to be:

Year	Earning rate (% p.a.)
2021	14.5%
2020	3.1%
2019	13.4%
Average annual rate	**10.3%**

Over the 3 years to 31 December 2021, the Plan's actual earnings rate was 10.3% p.a.

In the period from 1 January 2022 to 31 May 2022 the Plan assets earned approximately -3.4%. We consider the impacts of investment performance in the period since 31 December 2021 on our contribution recommendations later in this report.

4.5 Crediting rate policy

Consistent with past practice, the Declared Rates of Interest have been calculated based on the average of the earning rates of the Plan.

We note that the Plan is wholly invested in the Active – Moderate Portfolio.

With the provision of six (6) monthly Member Statements the Administrator requested, on behalf of the Trustee, that this arrangement should allow for the use of Declared Rates of Interest for the six (6) months to 31 December each year that reflect the three (3) year average earning rate to that date. The Interim Rates of Interest for the next six (6) months are set to be equal to the most recent Declared Rates of Interest.

Further, it was requested that the Declared Rates of Interest for the six (6) months to 30 June each year should be determined in such a way that the Declared Rates of Interest for the twelve (12) months to 30 June each year were effectively the same as if the previous twelve (12) month basis (being a three (3) year average basis to 30 June each year) had continued to apply.

The adjusted rates of interest are to be calculated with a 0.3% deduction from the standard rates of interest.

During the period to 31 December 2021 the adjusted declared rates applied to defined benefit members' accounts were as follows:

Year	Adjusted declared rate (% pa)
2021	9.9%
2020	3.1%
2019	9.7%
Average annual rate	**7.6%**

Over the 3 years to 31 December 2021, the Plan's adjusted declared rate was 7.6% p.a. on average. Therefore, over the inter-valuation period, the rate of actual investment earnings was higher than the rate of interest credited to defined benefit members' accounts, due to the operation of the crediting rate policy.

For the period from 1 January 2022 to 31 May 2022, the adjusted declared rate for the Plan is expected to be a low positive rate for the period, compared to an actual earned rate of -3.4%.

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 acceptable.

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 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. At the valuation date, the accumulation-based leaving service benefits (allowing for Minimum Requisite Benefits) were higher than the defined retirement benefit for Plan members, which means that members were generally bearing the investment risk in relation to their vested benefits at the valuation date.

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, provided that the employer recognises and accepts the potential variability in returns and the resulting impact on contribution requirements.

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” funding method, which is the same method used for the previous investigation.

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 as 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.

Given the Plan is closed to new defined benefit members I believe the Attained Age Normal Method is an appropriate method to adopt for this investigation. It was used here because it provides a future contribution rate that:

- is relatively simple to understand;
- is relatively stable over time; and
- limits the retention of excessive assets within the Plan.

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.

5.1.2 Value of assets

For the purposes of this valuation, we have used an asset value of $1,772,364 as at 31 December 2021 in respect of assets supporting defined benefits only. We are satisfied that this value is appropriate.

5.2 Plan experience

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 Financial assumptions

5.2.1.1 Investment return

Over the period since the prior investigation, investment returns have been higher than expected. The Plan earned 10.4% p.a. on average compared to the assumption in the previous valuation of 6.25% per annum. This has had a positive effect on the financial position of the Plan.

For this valuation we have assumed long term future investment returns of 6.0% p.a. (net of tax and investment management fees). 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.

5.2.1.2 Salary increases

Over the period covered by this report, overall salary increases have been approximately 1.1% p.a. for defined benefit members who were in the Plan at both 31 December 2018 and 31 December 2021. This is lower than the assumed 2.0% p.a. rate in the 31 December 2018 valuation. Therefore, this has had a positive effect on the financial position of the Plan.

Based on input from the employer regarding expected salary increases over the next few years, we have maintained the assumption for future salary growth of 2.0% p.a. for this investigation.

5.2.1.3 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 investigation period, the difference between the actual investment return and the rate of salary growth has been in the order of 9.3% per annum. The "gap" assumed in the 31 December 2018 valuation was 4.25% per annum. Since this is lower than the actual "gap", the combined effect of the Plan's investment and salary experience has had a positive effect on the financial position of the Plan.

For this valuation, the gap between the assumed rate of future investment earnings and the assumed rate of future salary increases is 4.0% p.a..

5.2.2 Non-financial assumptions

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 not undertaken a detailed analysis of decrement experience over the period from 1 January 2019 to 31 December 2021. The size of the membership does not allow enough data to conduct a meaningful statistical analysis.

However, we have instead conducted a simplified experience analysis by count, looking at the actual numbers of exits occurred in the three years ended 31 December 2021 compared to the numbers expected under the actuarial basis adopted for the 31 December 2018 valuation, for each decrement type.

The following table shows a comparison of actual exits versus those expected under the valuation basis over the three years ended 31 December 2021:

Decrement type	Actual	Expected	Difference (A-E)
Withdrawal/Retirement	3	0	3
Total	**3**	**0**	**3**

We note that all exits were aged 59 or older. Given that there are only 2 remaining members in the Plan, we do not believe that any change in retirement decrements would make a material impact on the valuation results. Accordingly, we have retained the same demographic assumptions as those used in the previous valuation, i.e. it has been assumed that members remain in the Plan until age 65.

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

5.2.3 Crediting rates

The Trustee has adopted a policy whereby the crediting interest rate is set equal to the average of the actual earning rate over the previous three years, net of investment tax and investment expenses. The crediting rate policy is described in section 4.5 of this report. This is referred to as the “smoothing” policy. The smoothed crediting rate applies to defined benefit member accounts.

Over the period covered by this report, operation of the smoothing policy resulted in interest credited to members’ accounts being 7.6% p.a. compared to the Plan’s average investment return over the same period of 10.3% per annum. Hence, the Plan has credited less than it has earned and this had a positive effect on the financial position of the Plan over the inter-valuation period.

The smoothing method adopted will eventually see average crediting rates increasing into line with actual Plan earning rates over time. However variations in the level of member balances over time may mean that the mismatch in crediting and earning rates which has occurred may have a real, albeit small, financial effect on the Plan.

5.2.4 Expenses

The investment earnings rate is assumed to be net of investment expenses.

At the previous investigation, an administration expense assumption of 2.0% p.a. of salaries was used. Over the 3 years to 31 December 2021, the cost of administration expenses was about 3.0% p.a. of defined benefit members' salaries.

Taking into account actual expenses over the inter-valuation period and that the Plan is closed to new defined benefit members, we have revised the expense assumption to $17,500 per annum in relation to the defined benefit arrangements.

Insurance expenses are discussed below.

5.2.5 Insurance

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

At the previous investigation, an allowance of 1.0% of salaries was made to cover the cost of insurance premiums. The actual insurance premiums over the inter-valuation period were on average 0.5% p.a. of defined benefit members' salaries.

Based on insurance premiums over the last quarter of the 2021 year, we estimate that current insurance premiums are approximately 0.7% p.a. of defined benefit members' salaries at 31 December 2021. Therefore, we have increased this allowance to 0.7% p.a. of defined benefit salaries for this investigation.

5.2.6 Taxation

The Plan is a "regulated superannuation fund" and is governed by the regulations of the Superannuation Industry (Supervision) Act 1993.

We have assumed that the current tax regime will continue and that the tax rate presently applying to the Fund will be maintained in future i.e. that the Fund will remain a regulated and complying fund under SIS and the Tax Act respectively and that a concessional tax rate of 15% will apply to net deductible contributions and investment earnings.

In addition, we have assumed that any additional taxation attributable to contributions in respect of high income earners (Division 293 taxation) and/or excess concessional contributions will be deducted from the total benefits of the affected members by means of an offset account, if not paid separately by the individual members.

6 Solvency and funding measures

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 (i.e. in three years' time) "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, are excluded from this investigation.

6.1 Vested Benefits

"Vested benefits" are benefits that would be paid if all members voluntarily left service. The following table shows the progression of the vested benefits position of the defined benefits section of the Plan as at 31 December 2021 compared to that at the previous valuation date (31 December 2018):

	31 December 2018	31 December 2021
Value of defined benefit assets ($'000)	4,218	1,772
Defined Benefit Vested benefits ($'000)	3,844	697
Vested Benefits Index (VBI)	**110%**	**254%**

The Vested Benefits Index (VBI) is the ratio of the market value of the Plan's assets to the vested benefits. As shown above, at 31 December 2021 the VBI was 254%. In comparison, the VBI at 31 December 2018 was 110%. The improvement in the VBI over the inter-valuation period is largely due to higher than expected investment returns, crediting rates being lower than actual returns, the corrected calculation of SG minimum benefits, and the surplus being spread over a small number of remaining defined benefit members when expressed as a percentage.

The assets and vested benefits at 31 December 2021 above exclude $942,783 of accumulation account balances in respect of defined benefit 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 date (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 section 5. 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. For this valuation, each member's accrued benefit has been made subject to a minimum of the member's vested benefit.

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 as and when they fall due if the actuarial assumptions were borne out in practice.

The following table shows the progression of the Accrued Benefits Index of the defined benefit section of the Plan as at 31 December 2021 compared to that at 31 December 2018:

	31 December 2018	31 December 2021
Value of defined benefit assets ($'000)	4,218	1,772
Defined benefit accrued benefits[1] ($'000)	3,878	718
Accrued Benefits Index (ABI)	**109%**	**247%**

[1] Minimum of vested benefits at an individual member level have been applied.

The assets and accrued benefits at 31 December 2021 above exclude $942,783 of accumulation account balances in respect of defined benefit members.

The Accrued Benefits Index (ABI) is the ratio of the market value of the Plan's assets to the accrued benefits. As shown above, at 31 December 2018 the ABI was 109%. In comparison, the ABI at 31 December 2021 was 247%, representing an increase in the accrued benefit coverage.

The increase in the Accrued Benefits Index over the inter-valuation period is largely due to higher than expected investment returns, crediting rates being lower than actual returns, the corrected calculation of SG minimum benefits, and the surplus being spread over a small number of remaining defined benefit members when expressed as a percentage.

We note that the value of accrued benefits before application of the vested benefits minimum was also $718,000 as at 31 December 2021, which would have resulted in an Accrued Benefits Index (before vested benefits minimum) of 247%. The accrued benefits are not impacted by the vested benefit minimum since the accrued benefit is higher than vested benefit minimum for both of the members.

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 Minimum Requisite Benefit for each member is less than or equal to the member's vested benefit.

The following table shows the progression of the Minimum Requisite Benefits Index of the defined benefit section of the Plan as at 31 December 2021 compared to that at 31 December 2018:

	31 December 2018	31 December 2021
Value of defined benefit assets ($'000)	4,218	1,772
Defined Benefit Minimum Requisite Benefits ($'000)	2,974	683
Minimum Requisite Benefits Index (MRBI)	**142%**	**259%**

The assets and Minimum Requisite Benefits at 31 December 2021 above exclude $942,783 of accumulation account balances in respect of defined benefit members in respect of defined benefit members.

At 31 December 2021, the coverage of defined benefit Minimum Requisite Benefits by defined benefit assets was 259%, compared to 142% at 31 December 2018.

6.4 Plan termination

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. 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.

6.5 Events since 31 December 2021

In the period since 31 December 2021, investment markets have been weaker. Based on information provided by the Plan's administrator, the Plan's funding ratio for Vested Benefits (the Vested Benefits Index or VBI) fell slightly to approximately 231% as at 31 March 2022, driven by a positive smoothed crediting rate applied to member accounts whilst the Plan assets suffered falls in investment returns in that quarter. Also, for the period between 31 March 2022 and 31 May 2022, the Plan's assets earned approximately -2.2%, which we expect will have resulted in the Vested Benefits Index falling slightly further but remaining above 200%.

Although it is important not to over-react to short term market movements, we have allowed for an estimate of recent market movements based on available information in determining the contribution recommendations in the following section.

6.6 Summary of total liabilities

The following table provides a summary of the total liabilities in GlencoreSuper as a whole, for both defined benefit members and accumulation members, as at 31 December 2021. This information has been included to assist the Trustee in its reporting under SRF 160.0.

	Defined benefit members (GlencoreSuper)	Defined benefit members (GlencoreSuper Coal)	Accumulation members	Total
Accrued benefits [1]				
Defined benefit interests	718	1,663	-	2,381
Defined contribution interests	943	89	801,093	802,125
Total interests	**1,661**	**1,752**	**801,093**	**804,506**
Vested benefits				
Defined benefit interests	697	1,907	-	2,604
Defined contribution interests	943	89	801,093	802,125
Total interests	**1,640**	**1,996**	**801,093**	**804,729**
Minimum benefits				
Defined benefit interests	683	1,108	-	1,791
Defined contribution interests	943	89	801,093	802,125
Total interests	**1,626**	**1,197**	**801,093**	**803,916**

Note: All figures in the above table are expressed in $'000s.

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

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.

A minimum of vested benefits at an individual member level has been applied when determining accrued benefits.

As mentioned in section 6.5, the Plan's Vested Benefits Index (VBI) has decreased since 31 December 2021. We have completed a number of projections below that incorporate the current funding position at 31 March 2022, the last quarterly review of the Plan.

A key objective of our contribution recommendations is to maintain the VBI of at least 100%. We have chosen a level of 100% as the 'target' in our funding approach.

The sections below consider the projection of the Plan's VBI over the next 5 years. The projections below show that if the Employer contributes as recommended, the financial position of the Plan is expected to remain in a satisfactory financial position over the next 3 years.

7.2 Long term funding rates

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.

Specifically, we show:

- The Employer Additional Contribution Rate which represents the contribution rate required to fully amortise any current deficit (or surplus), arising from past service, over members' future periods of Plan membership
- The Employer Normal Contribution Rate which represents 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 Plan:

	($'000)
Future Service Liabilities	359
Future insurance expenses [1]	16
Future Member Contributions	(55)
Total Future Net Liabilities [1]	320
Present value of 1% of future salaries	23
Employer normal contribution rate – future service (after 15% contributions tax) [1]	**16.4%**
Past Service Liabilities	718
Assets	1,772
Past Service Liabilities – Assets	(1,054)

1. Excludes administration expenses of $17,500 p.a. which would apply in addition

The average long-term Employer contribution rate required to ensure sufficient assets are accumulated in the Plan to meet the cost of members' defined benefits in respect of future years of Plan membership based on the assumptions in this report is approximately 16.5% of salaries plus $17,500 per annum.

Given the focus of SPS 160 is to maintain coverage of the VBI whenever possible, below we look at projections of the Plan's VBI over the next 5 years, which indicate that a nil contribution rate is expected to maintain the Plan's VBI above 100% over that period.

7.3 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% (net of tax) with other assumptions unchanged.

	Value of assets ($'000)	Accrued benefits[1] ($'000)	Accrued Benefits Index (ABI)
5.0% discount rate	1,772	712	249%

1. Minimum of vested benefits at an individual member level has been applied

On this basis, the Plan's net surplus is not materially changed, due to the application of the vested benefits minimums and given that the leaving service benefit, which is accumulation-based, is applying for both members in the Plan and effectively acts as an accumulation benefit underpin to the standard defined benefit payable on retirement (i.e. the projected accumulation-based leaving service benefit exceeds the projected retirement benefit which is a defined benefit type).

We have also calculated the actuarial surplus of the Plan, assuming future investment returns of 6.0% (net of tax) and salary assumption of 3.0% p.a. instead of 2.0% p.a. with other assumptions unchanged.

	Value of assets ($'000)	Accrued benefits[1] ($'000)	Accrued Benefits Index (ABI)
6.0% discount rate and 3.0% salary increase	1,772	718	247%

1. Minimum of vested benefits at an individual member level has been applied

On this basis, there is no change in the Plan's net surplus because the accumulation benefit underpins are applying for all members, and hence the value of accrued benefits is not sensitive to small changes in the salary increase assumption.

As an additional sensitivity, we have also calculated the actuarial surplus of the Plan, assuming future investment returns of 6.0% (net of tax) and salary assumption of 7.0% p.a. instead of 2.0% p.a. with other assumptions unchanged. (The large difference in salary increase assumption was selected as an additional sensitivity to illustrate the impact of salary-based defined benefits exceeding the accumulation benefit underpins for member benefits.)

	Value of assets ($'000)	Accrued benefits[1] ($'000)	Accrued Benefits Index (ABI)
6.0% discount rate and 7.0% salary increase	1,772	799	222%

1. Minimum of vested benefits at an individual member level has been applied

This shows that if salary increases were 7% p.a., the Plan's net surplus would decrease by approximately $81,000 and the Accrued Benefits Index would fall slightly to 222%.

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

7.4 Funding projections

As mentioned, we note that the VBI of the Plan has fallen to approximately 231% at 31 March 2022. Allowing for the lower VBI as at 31 March 2022, and further falls in investment returns of about -2.2% over the period between 31 March 2022 and 31 May 2022, in the table below we have projected the assets and vested benefits of the Plan to estimate the contribution rates required to maintain a VBI of at least 100% over the period to 31 December 2026.

Therefore, we estimate that the Employer can continue the current contribution holiday for at least another 5 years.

We have projected the build-up of the defined benefit assets over the next five years and compared the assets to the projected levels of the vested benefits on a number of scenarios.

These projections have been performed using the actuarial assumptions contained in section 5.

The projected Vested Benefits Index (VBI) for the defined benefits section of the Plan is as follows:

Projection 1: Nil contributions and investment return of 6.0% pa

Projected Date	No. of Members	Contribution rate	Projected DB Assets $000s	Projected DB Vested Benefits $000s	Projected DB VBI
31 December 2021 (actual)	2		1,772	697	254%
31 March 2022 [1]	2		1,692	732	231%
31 December 2022 [2]	2	0%	1,703	812	210%
31 December 2023	2	0%	1,793	897	200%
31 December 2024	2	0%	1,888	983	192%
31 December 2025	1	0%	1,356	463	293%
31 December 2026	1	0%	1,423	514	277%

1. Estimate after deducting estimates for accumulation account balances of members at 31 March 2022
2. Allows for actual investment returns earned in the period to 31 May 2022

The above table shows that a nil contribution rate is projected to comfortably maintain the VBI at or over 100% over the next 5 years assuming experience is in line with assumptions.

To give an indication of the sensitivity of the VBI to investment returns, we also considered the progression of the VBI if investment returns were 1% p.a. lower, i.e. 5.0% p.a.

Projection 2: Nil contributions and investment return of 5.0% pa

Projected Date	No. of Members	Contribution rate	Projected DB Assets $000s	Projected DB Vested Benefits $000s	Projected DB VBI
31 December 2021 (actual)	2	0%	1,772	697	254%
31 March 2022 [1]	2		1,692	732	231%
31 December 2022 [2]	2	0%	1,693	811	209%
31 December 2023	2	0%	1,766	874	202%
31 December 2024	2	0%	1,842	950	194%
31 December 2025	1	0%	1,312	432	303%
31 December 2026	1	0%	1,362	477	286%

1. Estimate after deducting estimates for accumulation account balances of members at 31 March 2022
2. Allows for actual investment returns earned in the period to 31 May 2022

The tables above show that with a 1% p.a. lower investment return the defined benefit VBI is expected to comfortably remain at or above 100% for the next five years considering the same contribution pattern as assumed above.

Given the current surplus assets in the Plan, and considering the projections above, we have also projected the progression of the VBI if the recommendation to apply an amount of up to $175,000 p.a. in each of the next three years towards meeting the cost of employer contributions in relation to accumulation members in the Plan was fully taken up as a way to progressively manage down the surplus in the Plan.

Projection 3: As per Projection 1, and use of $175k of surplus towards contributions for accumulation members

Projected Date	No. of Members	Contribution rate	Surplus used to meet accum contns $000s	Projected DB Assets $000s	Projected DB Vested Benefits $000s	Projected DB VBI
31 December 2021 (actual)	2	0%		1,772	697	254%
31 March 2022 [1]	2			1,692	732	231%
31 December 2022 [2]	2	0%	175	1,527	813	188%
31 December 2023	2	0%	175	1,426	867	164%
31 December 2024	2	0%	175	1,319	950	139%
31 December 2025	1	0%	-	753	443	170%
31 December 2026	1	0%	-	784	493	159%

1. Estimate after deducting estimates for accumulation account balances of members at 31 March 2022
2. Allows for actual investment returns earned in the period to 31 May 2022

This shows that, assuming experience is in line with assumptions, the defined benefit VBI is expected to comfortably remain at or above 100% for the next five years if the employer continues the current contribution holiday for defined benefit members, and also applies $175,000 p.a. of surplus towards funding contributions in respect of accumulation members for the next three years.

We have also projected the financial position if the recommendation of applying up to $175,000 p.a. in each of the next three years towards meeting the cost of employer contributions in relation to accumulation members in the Plan was fully taken up but assuming the lower investment return assumption of 5.0% p.a.

Projection 4: As per Projection 2, and use of $175k of surplus towards contributions for accumulation members

Projected Date	No. of Members	Contribution rate	Surplus used to meet accum contns $000s	Projected DB Assets $000s	Projected DB Vested Benefits $000s	Projected DB VBI
31 December 2021 (actual)	2	0%		1,772	697	254%
31 March 2022 [1]	2			1,692	732	231%
31 December 2022 [2]	2	0%	175	1,518	811	187%
31 December 2023	2	0%	175	1,402	860	163%
31 December 2024	2	0%	175	1,281	934	137%
31 December 2025	1	0%	-	703	432	163%
31 December 2026	1	0%	-	723	477	151%

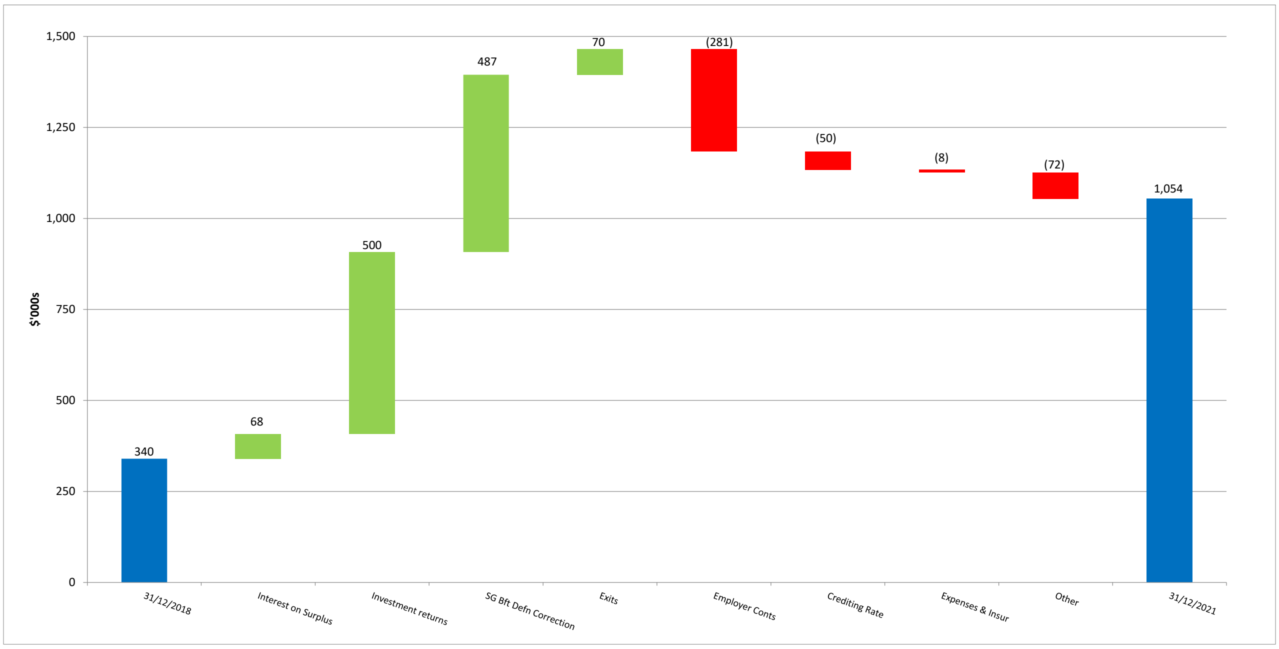
1. Estimate after deducting estimates for accumulation account balances of members at 31 March 2022
2. Allows for actual investment returns earned in the period to 31 May 2022

This shows that, even if future investment returns are 5% p.a. and all other experience is in line with assumptions, the defined benefit VBI is expected to comfortably remain at or above 100% for the next five years if the employer continues the current contribution holiday for defined benefit members, and also applies $175,000 p.a. of surplus towards funding contributions in respect of accumulation members for the next three years.

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 2018 to 31 December 2021. Brief commentary is included underneath.

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 2018;
- Significantly higher than expected investment returns over the period;
- Correction to the calculation of SG minimum benefits during the inter-valuation period;
- Gains on payment of exits as the vested benefit was lower than past service liability.

Negative Factors:

- Impact of the employer contribution holiday compared to the rate of benefit accrual;
- Crediting rates on average were higher than expected over the period.

7.6 Recommended employer contribution rates

As noted in section 7.2 above, the future service contribution rate is approximately 16.5% of defined benefit salaries plus $17,500 per annum.

Given the surplus position of the Plan at 31 December 2021 and allowing for estimated deterioration to 31 May 2022, and based on the approach and assumptions adopted in this report, the recommended Employer contribution rates for defined benefit members in respect of the period from 1 January 2022 until completion of the actuarial investigation as at 31 December 2024 are:

- at least nil for defined benefit members;
- additional contributions are paid where a defined benefit payment is made from the Plan during a quarter when the Plan is in an unsatisfactory financial position (the amount of the additional payment would reflect the Plan's financial position and allow also for the payment of contributions tax):

  The following formula should be used for calculating top-up contributions:

  Top-up contribution = 1.18 x (1 – Latest VBI) x Benefit, where:

  - Latest VBI = the most recently available Vested Benefits Index as determined by the actuary on a quarterly basis
  - Benefit = the total benefit payable to the member before application of any taxes payable.

We also recommend that, subject to any administrative or legal constraints, the Trustee allow the Employer to meet up to $175,000 p.a. (net of tax) of employer contributions in respect of accumulation members in the Plan from the Plan's surplus assets, for a period of up to three (3) years, subject to annual confirmation from the Plan actuary that this remains appropriate (or alternative contribution holiday arrangements as agreed between the Trustee and the Employer, subject to confirmation from the Plan actuary that they are broadly equivalent to the above recommendation).

In addition, we recommend:

- the Plan's financial position is monitored on an annual basis to ensure the continued appropriateness of the Plan contribution rate 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.

8 Insurance arrangements

8.1 Death and TPD

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

The purpose of insurance is to protect the Plan against adverse death and TPD experience. The "Amount at Risk" is the difference between the members' death or disablement benefits and the sum of insured amounts for all defined benefit members.

The sum insured for each defined benefit member is calculated as follows:

- *16% x Salary/New Wage x Remaining period to age 65; plus*
- *4% x Salary/New Wage x Remaining period to age 65 if Category XSTB.*

The table below shows the overall death and TPD benefits and insurance levels as at 31 December 2021 for defined benefit members. The amounts in the table exclude voluntary accumulation accounts for defined benefit members.

Defined Benefit Members ($'000)	Death/TPD
Total death/TPD benefits	1,863
Less	
Accumulation benefits (for DB members)	943
Less	
Insurance amount	189
Equals	
Amount at risk	**731**
Assets	1,772
Excess/(shortfall) coverage	**1,041**

On this basis the Amount at Risk is less than the value of the Plan's assets of $1,772,000. This shows that the current insurance arrangements in respect of death and total and permanent disablement benefits were adequate for the defined benefits section of the Plan at 31 December 2021.

Given the financial position of the Plan at 31 December 2021, we would expect the level of Plan assets to be sufficient to cover the amount at risk over the period to 31 December 2024.

Therefore, we believe the current insurance arrangements to be adequate to protect the Plan against adverse death or disablement experience, given the employer contribution rate recommended.

Appendix A: Summary of benefits

Defined benefit members receive benefits in accordance with the provisions of the Plan Summary. The Administrator has advised this is consistent with the Participation Schedule and the benefit provisions provided under the Trust Deed of the Previous Plan.

A brief summary of benefits is set out below.

<u>*General*</u>

Annual Review Date:	1 January each year commencing from 1 January 2005
Salary/New Wage:	Annual rate of member's ordinary salary as notified to the Trustee by the Employer
Old Wage:	The wage of a member expressed on a yearly basis calculated at the base classification rate applying to the member at 1 July 1996 as specified in the relevant Industrial Award covering the member's employment indexed by the AWOTE Factor
Final Average Wage (FAW):	Average of the member's Old Wage at 3 Annual Review Dates prior to the date of calculation
Final Average Salary (FAS):	Average of the member's Salary 3 Annual Review Dates prior to the date of calculation
Categories:	XSTA: Former defined benefit members of the MIM Holdings Limited Wages Employees Superannuation Fund
	XSTB: Former Senior defined benefit members of the MIM Holdings Limited Staff Employees Superannuation Fund
	XSTACM2: All defined benefit members who attain age 65 and continue in the Plan are transferred into this category
Normal Retirement Age (NRA):	60 with a Maximum Accrued Age of 65
Early Retirement Age (ERA):	55 with over 20 years' service for XSTA and XSTB members
Member Contributions:	Category XSTA – percentage of member's Old Wage determined by the member's attained age
	Category XSTB – percentage of member's Salary determined by the member's attained age
Employer Contributions:	Category XSTA – at the rate recommended by the actuary plus 12% of the difference between the member's New Wage and Old Wage
	Category XSTB – at the rate recommended by the actuary
Basic Rate of Accrual (BROA):	16%
Senior Rate of Accrual (SROA):	4%
Early Retirement Rate of Accrual (ERROA)::	14% at age 55 increasing by 0.4% each year of age to 15.6% at age 59
Basic Accrued Retirement Multiple (BARM):	BROA times total past membership subject to a maximum of 6.4

Senior Accrued Retirement Multiple (SARM):	SROA times total past senior membership subject to a maximum of 1.6 (Note: SARM for Category XSTA members are zero)
Basic Early Retirement Multiple (BERM):	ERROA times total past membership
Discount Factor (DF):	100% at age 60 reduced by 1.5% for each year the member is under the age of 60
Vesting Factor (VF):	1 plus 0.1 for each complete year of Membership in excess of 3 years, subject to a maximum of 2
Member Mandated Account:	Member's mandated contributions accumulated with interest
Additional Accounts (Non-MIC):	Member voluntary contributions, rollover monies and transfer amounts accumulated with interest
Employer Additional Account:	XSTA member's employer additional contributions accumulated with interest
Statutory Contribution Account:	Member and employer statutory contribution amounts accumulated with interest
Surcharge Account:	Surcharge assessments advised by the ATO accumulated with interest. Similarly, where Division 293 taxes are not paid separately by individuals, the liability for Division 293 taxation is assumed to be met by reducing the benefits of affected members.

Benefits

Normal Retirement Benefit (NRB)

The benefit payable on a member's retirement between the ages of 60 and 65 is a lump sum equal to:

- (BARM + SARM) x FAS for all Categories except Category XSTA
- (BARM + SARM) x FAW for Category XSTA members

Early Retirement Benefit (ERB)

For Category XSTA members, the benefit payable on early retirement is a lump sum equal to:

- BERM x FAW + SARM x FAW x DF

For Category XSTB members, the benefit payable on early retirement is a lump sum equal to:

- BERM x FAS + SARM x FAS x DF

Death Benefit (DB)

The benefit payable on the Death of a member prior to age 65 is a lump sum equal to:

- (BARM + SARM) x FAS for all Categories except Category XSTA
- (BARM + SARM) x FAW for all Category XSTA members

where

- BARM and SARM are calculated as at age 65
- FAS/FAW is calculated at age 65 assuming the member's salary remains unchanged

Total & Permanent Disablement Benefit (TPDB)

The benefit payable on the Total & Permanent Disablement (TPD) of a member prior to age 60 is a lump sum equal to the member's Death Benefit. The benefit payable on Total & Permanent Disablement (TPD) of a member aged between 60 and 65 is a lump sum equal to the member's NRB.

Leaving Service Benefit (LSB)

The benefit payable on withdrawal from the Plan is a lump sum equal to:

- Member Mandated Account x VF; plus
- SARM x FAS x DF (for XSTB members)

Minimum Benefits
All benefits payable to members are subject to a minimum of their Leaving Service Benefit. In addition, a member's benefit is subject to a further minimum of the member's Minimum Requisite Benefit as defined in the Plan's Superannuation Guarantee Benefit Certificate.

Accumulation Benefits
All benefits payable to members are to be increased with the balance of their Additional Account (Non-MIC) and decreased by the balance of their Surcharge Account. In addition, Category XSTA members are also eligible to receive the balance of their Employer Additional Account.

Benefits for Category XSTACM2
Members are entitled to receive retirement benefits which are determined according to their defined benefit category as at age 65. Subsequently, where members remain in the Plan, they are transferred to Category XSTACM2 where their benefit basis changes from defined benefit to accumulation benefit.

Members' benefits accrue with interest, to the date their benefit is paid, at the Plan's Declared Rate of Interest which is subject to a minimum of 4% per annum.

Appendix B: Summary of Assumptions

Interest Rate Earned on Assets	6.0% p.a. net of investment expenses and taxes
Salary Increase Rate	2.0% p.a.

Rates of Mortality, TPD and Leaving Service

It has been assumed that members remain in the Plan until age 65. No other decrements are assumed.

Future Expenses	The investment earnings rate is assumed to be net of investment expenses. Allowance for administration expenses of $17,500 p.a. in respect of the defined benefit arrangements. An allowance of 0.7% p.a. of defined benefit members' salaries was made for insurance premiums met by the employer.
Surcharge	All liability for surcharge is assumed to be met by an appropriate reduction in the benefits of affected members. Likewise, where Division 293 taxes are not paid separately by individuals, the liability for Division 293 taxation is assumed to be met by reducing the benefits of affected members.

Appendix C: Statement required by SPS 160

GlencoreSuper, a sub-plan in the Plum Division of the MLC Super Fund

Summary of Information included in 31 December 2021 Actuarial Report pursuant to Paragraph 23 of SPS 160

We have carried out a valuation of GlencoreSuper (the Plan) effective 31 December 2021. 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 have been valued at $1,772,364 at 31 December 2021.

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 dependants in respect of membership completed to date. In our opinion, the assets valued at 31 December 2021 were sufficient to meet the liabilities of the Plan in respect of accrued benefits of $718,459. We consider that the assumptions and valuation methods set out in this report are appropriate for determining the accrued benefit liabilities.

3. The Plan's assets are also sufficient to meet the liabilities of the Plan in respect of Vested Benefits of $696,628 as at 31 December 2021. 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 a satisfactory financial position at 31 December 2021. In our opinion, the shortfall limit does not need to be revised. Furthermore, 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 2021; and
   - The future experience of the Plan is in accordance with the actuarial assumptions made at 31 December 2021;

   then we certify that the Plan will maintain a satisfactory financial position in the period to 31 December 2024.

4. Based on the results of this investigation, the recommended Employer contribution rates for defined benefit members in respect of the period from 1 January 2022 until completion of the actuarial investigation as at 31 December 2024 are:

   - at least nil for defined benefit members;
   - additional contributions are paid where a defined benefit payment is made from the Plan during a quarter when the Plan is in an unsatisfactory financial position (the amount of the additional payment would reflect the Plan's financial position and allow also for the payment of contributions tax):

     The following formula should be used for calculating top-up contributions:

     Top-up contribution = 1.18 x (1 – Latest VBI) x Benefit, where:

     - Latest VBI = the most recently available Vested Benefits Index as determined by the actuary on a quarterly basis
     - Benefit = the total benefit payable to the member before application of any taxes payable.

We also recommend that, subject to any administrative or legal constraints, the Trustee allow the Employer to meet up to $175,000 p.a. (net of tax) of employer contributions in respect of accumulation members in the Plan from the Plan's surplus assets, for a period of up to three (3) years, subject to annual confirmation from the Plan actuary that this remains appropriate (or alternative contribution holiday arrangements as agreed between the Trustee and the Employer, subject to confirmation from the Plan actuary that they are broadly equivalent to the above recommendation).

In addition we recommend that:

- the Plan's financial position is monitored on an annual basis to ensure the continued appropriateness of the Plan contribution rate 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.

5. Payment of Employer contributions as above, together with the assets of the Plan and the expected earnings of the Plan over the period from 1 January 2022 to 31 December 2024 are expected to provide adequately for the expected liability during the period to 31 December 2024. 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.

6. 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 2021 and the recommended Employer contributions above, is set out below.

Projected Date	Projected DB Assets ($000s)	Projected DB Vested Benefits ($000s)	Projected DB Vested Benefits Index
31 December 2021 (actual)	1,772	697	254%
31 December 2022	1,527	813	188%
31 December 2023	1,426	867	164%
31 December 2024	1,319	950	139%

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

8. 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 Plan of $683,660 as at 31 December 2021. Funding and Solvency Certificates for the Plan covering the period from 1 January 2019 to 31 December 2021 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 2024, based on the assumptions used in the actuarial investigation of the Plan as at 31 December 2021.

Diane Somerville, FIAA
29 June 2022

Andrew Boal, FIAA

Appendix D: AASB 1056 Statement

GlencoreSuper (the 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 2021, for the purposes of 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

The net asset value used for this valuation at 31 December 2021 was $1,772,364. This represents assets for defined benefit members only, and excludes $942,783 of accumulation account balances for these members. 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 $696,628. This includes only defined benefit members and excludes $942,783 of voluntary accumulation account balances for these members.

The ratio of the net market value of the Plan's assets to total defined benefit vested benefits was 254% at 31 December 2021, which indicates a satisfactory coverage of vested benefits as at the date of the actuarial investigation.

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.

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 2021 were:

- The future rate of investment return (net of investment taxes and net of investment management fees) earned on the Plan's assets would be 6.0% per annum.
- The future rate of long-term salary increases would be 2.0% per annum.

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 8 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 2021 was $718,459. This includes only defined benefit members, and excludes $942,783 of accumulation account balances for these members.

The ratio of the assets to the value of the total accrued benefits (for AASB 1056 purposes) was 247% at 31 December 2021 in respect of the defined benefit liabilities. The assets were therefore sufficient 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 funding 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 2021, 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) based on changes in the key assumptions in the following table.

Sensitivities	31 December 2021 ($000s)	Increase/(Decrease) in Accrued Benefits Liability ($000s)
Base Case	718	
Discount Rate +1%	710	8
Discount Rate -1%	712	(6)
Salary Increase Rate +1%	718	-
Salary Increase Rate -1%	718	-

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 2022 until completion of the actuarial investigation as at 31 December 2024 are:

- at least nil for defined benefit members;
- additional contributions are paid where a defined benefit payment is made from the Plan during a quarter when the Plan is in an unsatisfactory financial position (the amount of the additional payment would reflect the Plan's financial position and allow also for the payment of contributions tax):

The following formula should be used for calculating top-up contributions:

Top-up contribution = 1.18 x (1 – Latest VBI) x Benefit, where:

- Latest VBI = the most recently available Vested Benefits Index as determined by the actuary on a quarterly basis
- Benefit = the total benefit payable to the member before application of any taxes payable.

We also recommend that, subject to any administrative or legal constraints, the Trustee allow the Employer to meet up to $175,000 p.a. (net of tax) of employer contributions in respect of accumulation members in the Plan from the Plan's surplus assets, for a period of up to three (3) years, subject to annual confirmation from the Plan actuary that this remains appropriate (or alternative contribution holiday arrangements as agreed between the Trustee and the Employer, subject to confirmation from the Plan actuary that they are broadly equivalent to the above recommendation).

In addition we recommend that:

- the Plan's financial position is monitored on an annual basis to ensure the continued appropriateness of the Plan contribution rate 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.

Financial Condition

In our opinion, the Plan was in a satisfactory 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
- 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 remain covered by defined benefit assets of the Plan throughout the three years following the date of the investigation.

Diane Somerville, FIAA
29 June 2022

Andrew Boal, FIAA