Investment Valuation Policy

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1	21 April 2015	Original version	Board	Final
2	21 June 2016	Annual Policy Review	Board	Final

Contents

1. Background

1.1 As required by the New Zealand Superannuation and Retirement Income Act 2001 (the Act) the financial statements of the New Zealand Superannuation Fund (Fund) are prepared in accordance with generally accepted accounting practice in New Zealand (NZ GAAP) and comply with New Zealand Equivalents to International Financial Reporting Standards (NZ IFRS), as appropriate for profit-oriented entities.

1.2 In accordance with these requirements, the financial statements will be prepared on a 'fair value' basis.

1.3 NZ IFRS defines fair value as an estimate of the price that would be received to sell an asset in an orderly transaction between market participants at the measurement date.

1.4 Valuing the Fund's **investments** at fair value also enables the Guardians to manage the Fund's portfolio effectively.

2. Objective

2.1 The objective of this policy is to establish the approach taken to measure the fair value of all investments held by the Fund.

3. Definitions

3.1 To aid with interpretation of this policy there is a Glossary of Terms, which defines all investment and technical terms used in the Guardians policy documents. In this policy the first instance of any such defined term is highlighted in bold. References to other documents are italicised.

4. Scope

4.1 This policy establishes the methodology for valuing all investments that are managed by the Guardians or externally managed on behalf of the Guardians.

5. Delegations and authorities

5.1 The *Delegations Policy* governs the delegations and authorities that apply in all policy documents. In the event of any discrepancy between this policy and the *Delegations Policy* the *Delegations Policy* will prevail.

5.2 The Board has reserved certain matters either to itself, a committee of the Board or the Chief Executive. Those matters are outlined in the *Delegations Policy*. All other matters are delegated to the Chief Executive who may sub-delegate them to Guardians' staff. All delegates and sub-delegates must exercise their authorities in compliance with the general conditions of delegation and sub-delegation set out in Schedule 2 of the *Delegations Policy*.

5.3 There are certain responsibilities inherent under this policy. Those responsibilities, and the person responsible for them, are outlined in Schedule 1.

6. Valuation approach

6.1 This policy splits the approach to valuation into two key parts:

- The method of valuation to be used (and application of the fair value hierarchy to that method); and
- The frequency with which valuations are conducted.

6.2 Sections 7-9 below and Schedule 2 outline the method of valuation. Section 10 and Schedule 3 outline the frequency of those valuations.

7. Valuation methodology categories

7.1 The valuation methodologies outlined in Schedule 2 will be applied to all of the Fund's investments in determining fair value, and will utilise the highest level of inputs available from the hierarchy as outlined in Schedule 2.

7.2 With all valuations, a risk-based approach will be adopted to ensure that investments are being valued appropriately.

7.3 The Valuation Working Group (VWG) is an internal working group that reviews the sources of information, methodologies, practices and policies relating to the valuation of the Fund's assets, and reports to the Audit Committee. Any departure from the valuation approaches outlined in Schedule 2 will be reviewed by the VWG and, if deemed appropriate and will not result in a reduction in the quality and/or reliability of the fair value calculated, will be recommended by the VWG for adoption by the Guardians.

7.4 The Guardians' valuation methodologies, grouped by specific investment categories must be maintained in Schedule 2.

8. Hierarchy of fair value

8.1 The most reliable or highest quality information available will be used to determine the value the Fund's investments, in accordance with the fair value hierarchy in Schedule 2.

9. Independent third party valuers

9.1 Where an independent valuation is required, an external valuer will be engaged. Prior to engagement, the valuer must be assessed for suitability in a number of areas including, but not limited to: relevant qualifications; experience; capacity to undertake the work; reputation; and independence from the Guardians.

9.2 Independent valuers, whether engaged directly or through an investment manager, will be assessed by the lead investment professionals and presented for review to the VWG prior to engagement.

9.3 Independent valuers will be assessed for rotation by the VWG, at a minimum, every three years.

9.4 Independent valuations will be prepared in line with the relevant accounting standards and relevant legislation.

10. Frequency of valuations

10.1 All fair values will be updated as frequently as practical, allowing for any restrictions in the availability of data and any other constraints (for example, the engagement of independent third party valuers can only be practically carried out periodically due to the expense and complexity of the work involved). A risk-based approach will be applied in determining how often an investment is revalued (i.e. more stable/less risky investments may require less frequent revaluation than more volatile/more risky investments). Any departure from the valuation frequencies outlined in Schedule 3 will be reviewed by the VWG and, if deemed appropriate, recommended by the VWG for adoption by the Guardians. Investment capital flows (such as the provision of funding to an investment or the return of capital) will be reflected in the fair value of an investment immediately upon occurrence.

10.2 Regardless of the valuation approach or frequency of valuation, any evidence of an impairment in the fair value of an investment will be investigated immediately and, if required, the fair value will be updated as soon as a value can be reasonably determined. Evidence that an impairment may have occurred includes, but is not limited to: financial difficulty of the investee; the disappearance of an active market; obsolescence or damage to an asset as a result of environmental events.

10.3 A review of the fair value of any investment can be requested by the VWG or Audit Committee at any time throughout the financial year. If such a request is made, the valuation approach outlined in this policy will be followed and any change to the fair value of the investment made as soon as it can be determined.

10.4 The minimum frequency of valuation for the Fund's main categories of investments must be maintained in Schedule 3.

11. Consistency of valuations

11.1 The Guardians' valuation methodology will be applied consistently across all portfolios and investments with similar characteristics wherever possible.

11.2 The valuation approach will also be applied consistently between financial periods. A change in the valuation approach will only be made if it results in a value measurement that is equally or more representative of fair value. This might be the case if, for example, new information becomes available, or information previously used in the valuation process is no longer relevant.

12. Reporting

12.1 We must report to the Board on the following matters:

- Any material change in applicable Financial Reporting Standards that affect the valuation of the Fund's investments.
- Any change in the Guardians' valuation policies.
- Any departure from the valuation approaches outlined in this policy.
- Any disagreement with the fair value of an investment, determined through the relevant valuation approach outlined in this policy, which results in a material difference.

12.2 We will report proposed material changes to the following schedules to the Board for their approval:

- Schedule 2: Valuation methodology categories
- Schedule 3: Frequency of valuations
- Schedule 4: Reporting framework

12.3 We must report to the Board, for their information, material changes to the following schedules of this policy:

- Schedule 1: Responsibilities
- Schedule 5: Legislative compliance
- Schedule 6: Valuation Working Group – Terms of Reference

12.4 An outline of the reporting framework, including any reporting to internal management committees, must be maintained in Schedule 4.

13. Legislative compliance

13.1 We have a legislative compliance framework to ensure that we comply with our legislative obligations. In each of our policies we list specific legislation that might impact on the activities covered by that policy. The list is not always exhaustive as often the law is specific to a particular aspect of the activity or jurisdiction in which the activity occurs.

13.2 We will ensure that all our activities under this policy comply with our legislative obligations and give effect to our legislative compliance framework.

13.3 A list of legislation that potentially impacts on the activities under this policy must be maintained in Schedule 5.

14. Control Section

Approved this 21st day of June 2016

General Manager, Finance and Risk	______________________________
Chief Executive Officer	______________________________
Board Chair	______________________________

Schedule 1: Responsibilities

General Manager, Finance and Risk will:	• ensure this policy is kept current and relevant to the activities being undertaken (including Schedules 1-6) • ensure this policy is reviewed at least every five years
Chair of the Valuation Working Group will:	• ensure the VWG reviews valuations and valuation policies each year and reports to the Audit Committee on its findings (Terms of Reference of the VWG are attached in Schedule 6 to this policy) • review and assess any potential changes in value of unlisted investments held at cost • review and analyse any credit or debit value adjustments required to the fair value of OTC derivatives (as outlined in Schedule 2) and inform the Audit Committee of the result
Custodian will:	• act as valuation agent for the provision of financial reporting • provide their valuation and pricing policy (for review by the VWG) along with a robust process whereby the Guardians may specify a specific price or methodology be adopted • ensure that the internal controls over the valuation of investments are specifically reviewed on an annual basis by an independent third party and provide the findings of that review to the Guardians
Lead Investment Professionals will:	• present to the VWG for review any valuation for which they are responsible as required • prepare and review internal models where appropriate and required in line with this policy • advise the Investment Operations and Finance Teams of any changes in the investment environment or in the investments themselves which may impact fair value • act as the primarily point of contact and liaison with external valuers.
Head of Internal Audit will:	• report material policy breaches notified through the Learnings and Opportunity process immediately to the Risk Committee (RC) & Audit Committee (AC) • report all policy breaches notified through the incident reporting process to the subsequent RC, AC and Board meetings
General Counsel will:	• ensure schedule 5 (Legislative compliance) is kept current • report material changes to the schedules of this policy as part of the annual SIPSP review to the Risk Committee and Board meetings and under the 'no surprises' protocol

Approved by the Chief Executive on 21 April 2015

Schedule 2: Valuation methodology categories

The Fund comprises a broad range of investments, often with multiple sources of evidence available for the determination of fair value.

For many categories of investments, industry-standard approaches or methodologies exist for the determination of fair value. These are aligned with the Guardians' current valuation policies and those of several peer organisations.

As above, fair value is an estimate of the price that would be received to sell an asset. This estimate can be obtained through a variety of approaches which may utilise information from various sources. The reliability or quality of this information as inputs into the process of estimating fair value has been categorised into a hierarchy under NZ IFRS (specifically in NZ IFRS 7 – Financial Instruments: Disclosures).

This hierarchy of inputs, in descending order, is set out below. The inputs used in estimating the fair value of the Fund's investments will be of the highest level from the hierarchy as possible.

Level 1: Quoted prices in active markets for identical assets or liabilities

Level 2: Other market-observable inputs (i.e. other than quoted prices)

Level 3: Non-market-observable inputs

The best evidence of fair value comes from quoted prices in active markets – a market is considered active if transactions occur at a frequency and in such volume to provide pricing information on an ongoing basis.

Other market-observable inputs include but are not limited to: interest rates; credit spreads; and pricing for comparable investments trading in active markets.

Non-market-observable inputs represent the least significant and reliable factor in determining fair value due to their subjectivity. Their use will be minimised as much as possible.

The table below outlines the valuation methodologies to be used for the main categories of products in which the Fund invests.

For several of the investment categories, there is more than one option for the valuation methodology. The methodology to be adopted is further clarified in the text below the table.

Investment category	Prices sourced by Custodian	Valuation provided by manager/ administrator	Cost or recent transaction	Third party valuation obtained	Third party validation of NZSF model	NZSF internal valuation
Investments with observable/quoted market prices	x					
OTC derivative instruments	x					
Collective investment vehicles		x				
Unlisted direct investments			x	x	x	x
Externally managed unlisted investments		x		x		

Investments with observable/quoted market prices

Investments with observable/quoted market prices includes any investment that is listed on an exchange or forms part of an index. Examples include, but are not limited to: equities; fixed income instruments; futures; and options. For these instruments, fair value will be obtained by our **Custodian** and will be determined with reference to quoted prices, hence would be utilising "Level 1" inputs as outlined in the hierarchy above.

Where the Custodian is unable to obtain a valuation that is considered representative of fair value for an instrument, pricing will be obtained from an alternative source and communicated to the Custodian. These instructions can take two forms: "client-provided pricing" (CPP) where management instruct the valuation of an instrument directly to the Custodian; or "client-specified pricing' (CSP) where management direct the Custodian to a specific pricing source. Pricing sources can be from internal management assessments or third parties such as brokers, counterparties or independent valuers.

Application of CPP or CSP is possible for all investment categories above, but will only be applied on an exception basis for those categories where values can be practically obtained by our Custodian.

The Valuation Working Group (VWG) will review and, if acceptable, recommend for approval by the General Manager, Finance and Risk all instances of where CPP or CSP is utilised. The list of assets valued via CPP or CSP will be reviewed by the VWG every six months.

Pricing, when received will be reviewed by the relevant team against internal modelling and performance expectations, and, when relevant, against comparative trades with other counterparties.

OTC derivative instruments

Over-the-Counter (OTC) derivative instruments are financial products where the value is derived from an underlying instrument. The OTC derivative instruments themselves are not listed on an exchange. Fair value, where possible, will be obtained by our Custodian either

from independent, industry-recognised, pricing sources or via a manual pricing process and will utilise "Level 2" and/or "Level 3" inputs as outlined in the hierarchy above.

The impact of counterparty/Fund credit risk on the valuation of OTC derivative contracts is generally not reflected in the market value of the security, although is required under current NZ IFRS.

The impact of this credit risk on the valuation of the Fund's OTC derivative financial instruments will be calculated by the Finance Team annually, coinciding with the end of the Fund's financial year. The resulting "credit value adjustment" or "debit value adjustment", if material, or otherwise considered significant in size or nature (as assessed by the VWG), will be booked in the year end accounts (but maintained *outside* of the Custodian's accounting records).

Collective investment vehicles

Collective investment vehicles includes investments in hedge funds, private equity funds and other pooled investment funds. They will be valued based on the last price per unit (or other appropriate measure) of the investment as provided by the investment manager. This price will be based on the fair value of the underlying net assets of the vehicle.

Investment managers must ensure that their standards, systems and procedures for keeping their books of account and transaction records at all times comply with generally accepted accounting practice.

The fair value of the underlying net assets can be determined using a variety of methods including independent valuation agents, valuation models based on the price of recent investments, earnings multiples, or discounted cashflows. The inputs used in determining fair value would therefore be classified as "Level 2" and/or "Level 3" inputs as outlined in the hierarchy above.

Unlisted direct investments

Unlisted **direct investments** includes investments which are not listed on an exchange or do not form part of an index, and are not externally managed on behalf of the Guardians.

For unlisted investments that are not held within a collective investment vehicle, the fair value must be estimated by the Guardians (either directly or through using an external party). Cost, or the price observed from a recent transaction of an investment, can be the best estimate of fair value, provided the relevant transaction occurred sufficiently close to the measurement date (within 1 year) and there has been no evidence of any subsequent significant change in value (such as a change in the immediate investment environment or in the investment itself) as assessed by the VWG. In the context of the hierarchy outlined above, this would constitute a "market-observable input" to a valuation ("Level 2").

In the absence of a recent transaction providing a reliable estimate, the fair value of unlisted direct investments will be determined as follows, based on cost or latest-available valuation as a percentage of the Fund's Net Asset Value (**NAV**):

Size of investment	Valuation Approach
=/>1% of NAV	Third party valuation obtained
0.5% - 1% of NAV	Third party validation of NZSF model
<0.5% of NAV	NZSF internal valuation

Third party valuations of investments with values of greater than or equal to 1% of the Fund's NAV will be reviewed in detail by the appropriate members of the Guardians' Investments

Team and presented to the VWG for review. If the valuation approach is considered valid, the VWG will recommend to the Guardians that the calculated fair value be adopted.

Third party validations of investments with values of greater than or equal to 0.5% and less than 1% of the Fund's NAV will involve, at the least, a third party review of the mechanics of the valuation model, confirmation of the key variables and a 'reasonableness-check' of the output. A summary of the key variables and the output, along with the validation report from the third party advisor, will be presented to the VWG for review. If acceptable, the VWG will recommend to the Guardians that the calculated fair value to be adopted.

Internal valuations of investments with values of less than 0.5% of the Fund's NAV will be calculated using valuation models maintained by the Guardians' Investments Team. The model will be reviewed by another member of the Investments Team who is independent from the management of the relevant investment. In addition, a summary of the key variables and the output will be presented to the VWG for review. If acceptable, the VWG will recommend to the Guardians that the calculated fair value to be adopted.

If the value of an investment is expected to move between any of the size categories outlined above (e.g. its most recent valuation is less than 1% of Fund NAV, however its fair value is expected to be above 1% of Fund NAV, or vice versa), the valuation approach used will be that of the larger size category.

For all unlisted direct investments, irrespective of size, internal models will be developed and maintained by the Guardians' Investments Team (or externally developed and then maintained by the Guardians' Investments Team) as a reference point to inform the final valuation.

Independent third party valuations can also be obtained for any investment, irrespective of size, at the request of the Investments Team, VWG or Audit Committee, for example if it is felt that the internal valuation models are not adequate or if the Guardians lacks the appropriate internal resource to develop or maintain the valuation models.

Externally managed unlisted investments

Externally managed unlisted investments comprise any investments that are externally managed on behalf of the Guardians, are not listed on an exchange or form part of an index and are not collective investment vehicles (but can include *single* investor funds).

Managers must ensure that their standards, systems and procedures for keeping their books of account and transaction records at all times comply with generally accepted accounting practice.

For individual investments with a cost or latest available valuation of greater than or equal to 1% of the Fund's NAV, fair value will be determined by independent third party valuation.

For individual investments with a cost or latest available valuation of greater than or equal to 0.5% and less than 1% of the Fund's NAV, the fair value will be provided by the investment manager and can be determined using a variety of methods including independent valuation, valuation models based on the price of recent investments, earnings multiples, or discounted cashflows. Where the relevant management agreement permits, the valuation methodology will be also be 'validated' (see 'Unlisted direct investments' above).

For individual investments with a cost or latest available valuation of less than 0.5% of the Fund's NAV, the fair value will be provided by the investment manager.

Approved by the Board on 21 April 2015, and amended on 21 June 2016

Schedule 3: Frequency of valuations

The table below outlines the frequency of valuations required for the main categories of products in which the Fund invests.

	Minimum frequency of review of valuations			
Investment category	**Daily**	**Monthly**	**Quarterly**	**Annually**
Investments with quoted market prices	x			
OTC derivative instruments		x		
Collective investment vehicles			x	
Unlisted direct investments				x
Managed unlisted investments				x

The fair value of investments with quoted market prices will be updated at least daily.

The fair value of OTC derivative instruments will be updated as frequently as possible, allowing for any restrictions in the availability of data. At the very least, fair values will be reviewed monthly, to coincide with the Fund's financial reporting cycles.

The fair value of collective investment vehicles will be updated based on the most recent statement received from the manager (received at least quarterly). The timeframes for manager reporting can vary considerably and, at measurement date, a valuation can be up to six months old. Adoption of this approach is in line with standard industry practice.

The fair value of unlisted direct investments, as determined by either a recent transaction or an external or internal valuation, will be updated as frequently as possible, depending on the size/significance/materiality of the change and the availability of information, but at least annually, to coincide with the end of the Fund's financial year.

To ensure consistency in the timing of the valuation of our unlisted assets where possible, the relevant lead investment professionals will also provide quarterly updates to the VWG on their investments. These updates will cover whether the lead investment professionals are aware of any factors specific to the investments which may significantly alter their value, including, but not limited to: updated trading results from the investment or changes in the key assumptions behind valuations. In the event that there are indicators of a significant change in the value of an investment, a full valuation (internal or external, in line with this policy's requirements for the size of the valuation) will be considered and reviewed by the VWG and any change in the fair value will be appropriately reflected in the Fund's book of records. The fair value of managed unlisted investments, as determined either by a third party valuation or provided by the managers themselves, will be adopted as frequently as possible, in line with industry standard, and, at a minimum, annually. Reinsurance contracts,

for example, can be modelled and priced daily, whilst other managed physical investments may only be priced semi-annually or annually due to the complexity and expense involved.

Consistent with unlisted direct investments, the relevant lead investment professionals will also provide quarterly updates to the VWG on the value of their managed unlisted investments. Again, should any indicators of a significant change in value exist, a full valuation (internal or external, in line with this policy's requirements based on the size of the valuation) will be requested and reviewed by the VWG and any change in the fair value appropriately reflected in the Fund's book of records.

Approved by the Board on 21 April 2015

Schedule 4: Reporting framework

Report	Reporting frequency and to whom	Minimum information required
Valuation Working Group report on unlisted investment valuations	Annually to the Audit Committee	Summary of individual investment valuations reviewed including key inputs, methodology and final recommended valuation.
Material changes to this policy	Annually to Risk Committee and Board and under the no surprises protocol.	Details and reason for change.
Breach of this policy	If material: immediately to Risk Committee and Board Otherwise: to subsequent Risk Committee, Audit Committee and Board meetings	Details of breach and remedial action taken.

Approved by the Board on 21 April 2015, and amended 21 June 2016

Schedule 5: Legislative compliance

The summary of New Zealand legislation set out below does not purport to be comprehensive or to provide legal advice. If you require any advice on these matters please contact the legal team.

When undertaking any activity under this policy, legislative considerations must be taken into account and complied with. The following legislation is not an exhaustive list as every activity will have legislation governing the activity and this may be different depending on the particular jurisdiction relevant to the activity.

Our governing legislation:

- Crown Entities Act 2004
- New Zealand Superannuation and Retirement Income Act 2001
- Public Audit Act 2001
- Public Finance Act 1989
- Financial Reporting Act 2013
- State Sector Act 1988
- Companies Act 1993

Approved by the Chief Executive on 21 April 2015

Schedule 6: Valuation Working Group – Terms of Reference

1. Objectives

The objective of the Valuation Working Group (the Group) is to review methodologies, practices and policies (incorporating the review of appraisals received) relating to the valuation of the assets of the New Zealand Superannuation Fund (the Fund), and to report findings to the Audit Committee.

In the conduct of this work, reference will be made to global good practice.

2. Membership

Members are:

- General Manager, Finance and Risk (Chairman)
- Head of Finance
- Head of NZ Direct Investment
- Head of International Direct Investment

Subject matter experts may be invited to attend where assets in their area of expertise are being reviewed. External experts may be invited to attend meetings as required. A member of the Finance team will provide secretarial services.

A quorum for any meeting will be two members (with at least one from the Finance team).

3. General Scope and Authority

The Group is primarily concerned with the way in which the assets of the Fund are valued, and in particular the valuation of unlisted assets.

While the Group is not a decision making authority:

a) It will review all unlisted valuations and the consistency of assumptions therein and has the authority to challenge assumptions used within those valuations.

b) It will review valuation policies of investment managers and the Custodian and has the authority to challenge those policies.

c) Any disagreements that cannot be resolved within the Group will be resolved by the Chief Executive and, if material, reported to the Audit Committee as soon as practical.

The Group makes recommendations on what valuation the Guardians should adopt, based on its review and findings.

4. Responsibilities

With a view to ensuring asset valuations by the Fund are accurate (at fair value, as defined by NZ GAAP), the Group has a responsibility to:

- Review all unlisted valuations. This will include the co-ordination of any review of internally-developed or internally-managed models and externally-managed valuations used to derive the valuation of unlisted assets;

- Review valuation policies used by managers and the Custodian (whether listed or unlisted);
- Monitor and, where needed, suggest changes to the following policies and procedures (insofar as they fall within the scope of this Group):
    a) Statement of Investment Policies, Standards and Procedures
    b) Accounting Policies
- Report to the Audit Committee its findings.

Where an independent valuation is obtained, but is not recommended for adoption, the Group must report this, along with justification, to the Audit Committee as soon as practical.

5. Meetings

The Group will meet at least quarterly.

Approved by the Chief Executive on 21 April 2015