



**PSPP Corporation**

**Board of Directors**

## **Investment Risk Management Policy**

Effective Date: July 1, 2025

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## INVESTMENT RISK MANAGEMENT

### **PURPOSE**

This policy's purpose is to provide an overview of responsibilities related to investment risk management for the Public Service Pension Plan (PSPP or the Plan) and to govern the delegation of investment risk management by the PSPP Corporation Board of Directors (Board) to Alberta Investment Management Corporation (AIMCo), the exclusive investment manager for the Plan's fund (Fund).

This includes providing clarification on:

1. AIMCo's responsibilities and reporting obligations in relation to their management of investment risks for the Plan; and
2. the Board's<sup>1</sup> oversight of investment risks and AIMCo's activities.

### **BACKGROUND**

The risk management framework for the Plan includes processes for identifying, evaluating and managing investment risks and oversight responsibilities with respect to AIMCo. Specifically:

- The PSPP Sponsor Board is responsible for establishing and annually reviewing the Plan's Funding Policy which addresses, in part:
  1. a definition of investment risk;
  2. risk tolerance for investment risk; and
  3. internal controls for investment risks
- The Board is responsible for adopting and regularly reviewing the Plan's Statement of Investment Policies & Procedures (SIPP), after having regard to provisions of the Plan's Funding Policy and other factors and limits described in the SIPP. The goal of the SIPP is to establish guidelines to ensure the Fund is managed within an appropriate and prudent level of risk.
- The Board is also responsible for establishing and regularly reviewing the Plan's Responsible Investing Policy (RI Policy) which provides that ESG factors may impact investment risks.
- PSPP Corporation engages AIMCo as the exclusive investment manager for the Fund, in accordance with legislation and pursuant to the terms and conditions of a Ministerial Order that took effect on January 1, 2021. Investment risk management responsibilities are delegated to AIMCo, as described in more detail herein, and AIMCo provides regular reporting to the Board on risk-related metrics and activities. PSPP Corporation works collaboratively with AIMCo to develop and maintain a clear and robust investment risk management operating model for the Plan.

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<sup>1</sup> For purposes of this Investment Risk Management Policy, references to the "Board" can include delegates or agents of the Board within PSPP Corporation (including, for example, the Investment Committee), in accordance with roles and responsibilities that have been outlined in the Plan's governing documents and policies.

- In its role as Trustee and Administrator of the Plan, the Board is responsible for the investment risk controls outlined in the Funding Policy including:
  1. the annual review of investment performance and the SIPP;
  2. the ongoing review of investment performance and asset class returns; and
  3. the oversight of AIMCo's responsible investing activities as outlined in the RI Policy

These responsibilities require the Board to ensure AIMCo's activities and outcomes are aligned with the Plan's SIPP, RI Policy, Funding Policy and PSPP Corporation's Enterprise Risk Management Program (ERM) with respect to the management of investment risks, and to ensure (to the extent possible) appropriate actions are taken when AIMCo's activities or the performance of the Plan's investments, are not meeting expectations.

- The ERM also incorporates investment risks into a systematic strategy that includes annual risk assessments, prioritization of risks and other key risk management activities. The ERM may, at any time, prioritize or highlight investment risks that require the Board to take particular steps or to implement particular controls. The Board may request that AIMCo take such steps and implement such controls.

## **BOARD COMMITMENT**

The Board believes that prudent management of investment risks is critical to ensuring that the promised pension benefits will be met without placing undue strain on contributions, and that there will be sufficient liquidity to meet the Plan's financial obligations as they become payable. Therefore, the Board commits to developing and implementing best practices in monitoring and informing (where permissible and applicable) AIMCo's management of investment risk to ensure these Plan objectives are met.

## **IMPLEMENTATION - AIMCO'S INVESTMENT RISK FRAMEWORK**

AIMCo uses long and short-term time horizons to structure its investment risk management activities for the Plan. Risks are considered over longer-term time horizons (i.e. 3-5 years, 10-20 years) when identifying investment and funding objectives, and monitoring the likelihood of meeting those objectives. Risk management is also applied with a short-term viewpoint (i.e. up to one year). It is recognized that negative outcomes in the nearer term can have implications for meeting the Plan's longer-term objectives.

### **1. Long-Term Investment Risk Management**

AIMCo has been delegated responsibility to implement the asset mix policy that is set by the Board and has discretion to make allocation decisions within the ranges provided (further details are provided in the SIPP).

AIMCo's implementation of the asset mix policy primarily involves monitoring and rebalancing of the Fund's asset mix relative to the strategic target. AIMCo manages Plan assets within its Total Portfolio Management (TPM) framework (which includes Tactical Asset Allocation (TAA) investments as deemed appropriate by AIMCo in the prevailing market environment). AIMCo is required to carry out such activities within the ranges specified by the Board and in accordance with the SIPP. The specific long-term risks that are monitored and managed by AIMCo and PSPP Corporation, including the metrics and thresholds used, are described in more detail in Appendix 1.

Decisions regarding the strategic asset mix are the Board's responsibility. These decisions are informed by quantitative tools and qualitative analysis and made in consultation with AIMCo, the Plan's Actuary and the Plan's Investment Consultant, as appropriate.

## **2. Short-Term Investment Risk Management**

Short-term investment risks are managed at both the total portfolio level and the product level. AIMCo has been delegated responsibility for managing and reporting on these risks as described below:

### **(a) Total Portfolio Risk**

At the total portfolio level, the Board (in consultation with AIMCo) sets metrics, limits and operating ranges for portfolio risk, active risk and liquidity risk. However, with respect to Stressed Liquidity Coverage Ratio (SLCR), the limit and operating ranges are consistent with AIMCo's general liquidity risk management policy. Total portfolio limits and operating ranges are reviewed periodically by the Board and AIMCo.

AIMCo is responsible for ensuring the portfolio is operating within the target ranges that have been set and is obligated to report to PSPP Corporation when risk measures are exceeded, in accordance with its Market and Credit Risk Management Policy. See Section 1 of Appendix 2 for further details regarding total portfolio metrics, limits and operating ranges and AIMCo's specific reporting requirements.

The Board monitors AIMCo's management of total portfolio risk and provides direction to AIMCo when risk measures are exceeded.

### **(b) Product Risk**

At the product level, key risks are managed for the Plan's public equity portfolio, fixed income portfolio and illiquid portfolio. AIMCo is responsible for monitoring and evaluating product risk using established metrics and controls on a frequent basis using various risk systems. In the event a product risk breach occurs, AIMCo is required to report the breach to PSPP Corporation and to take remedial action, in accordance with its Market and Credit Risk Management Policy. See Section 2 of Appendix 2 for further details regarding product risks, metrics and controls.

Other short-term investment risk management activities include:

- Stress testing (including factor shocks, historical scenarios and hypothetical stresses)
- Leverage ratios are considered at the total portfolio and asset class levels, for leverage controlled by AIMCo. (Additional details regarding the risks related to the use of leverage are addressed in the SIPP.)

## REPORTING AND MONITORING

To facilitate PSPP Corporation's oversight of AIMCo's investment risk management activities for the Plan, AIMCo is expected to provide the following reporting to PSPP Corporation:

- Quarterly reporting to indicate compliance with established investment guidelines (outlined in the SIPP, this Investment Risk Management Policy or other documents), or explain any inability to meet. Quarterly reporting includes (but is not limited to):
  - Long-term investment risk reporting, specifically all relevant risk analysis in relation to PSPP's long-term funding and investment objectives, as well as periodic updates on AIMCo's rebalancing, TPM and TAA activities;
  - Short-term investment risk reporting, specifically all relevant risk analysis at the total portfolio level, along with more detailed risk analysis for the Plan's public equity, fixed income and Illiquid portfolios and products;
- Timely reporting of any non-compliance with asset mix policy and to describe the corresponding action taken or recommended course of action to PSPP Corporation, in accordance with the SIPP;
- Meet with the Board at least annually to discuss any investment issues;
- Advise of any changes to AIMCo's pooled funds or segregated funds that hold Plan assets;
- Report on ESG risk management in accordance with RI Policy;
- Annual review provided by AIMCo's Chief Risk Officer, including updates on AIMCo's risk management policies and procedures; and
- Advise of any material changes or updates to AIMCo's Valuation Policy

To support PSPP Corporation in its oversight of AIMCo, the Investment Consultant for the Plan independently reviews AIMCo's reports and data, and highlights any observations and concerns for the Board.

## REVIEW OF INVESTMENT RISK MANAGEMENT POLICY

This Investment Risk Management Policy will be reviewed and approved by the Board annually and after any major changes to the portfolio risk framework, depending on materiality (e.g., after changes to the Plan's target asset mix, changes to key risk measures, or updates to AIMCo's risk measurement methodology). The Board will work with AIMCo as appropriate to ensure the ongoing relevance of the Investment Risk Management Policy and its implementation.

## APPENDIX 1 – LONG-TERM RISK MANAGEMENT

The key long-term risks that are monitored for the Plan, and the metrics and thresholds used for each, are set out below. These metrics are included in AIMCo’s quarterly reporting to PSPP Corporation, noting they may be updated periodically.

<b>Risk</b>	<b>Description</b>	<b>Metrics</b>	<b>Thresholds</b>
<b>Benefit Security</b>	The risk of the Plan experiencing a shortfall, such that the Plan’s assets are not sufficient to meet future benefit obligations.	Funding projections over a 20-year period are the primary analysis, including mean/median (expected) outcomes for the Plan’s future funded ratio and Conditional Value-at-Risk (CVaR) reflecting undesirable outcomes at a 95% (1-in-20 year) confidence level.	Benefit security thresholds are assessed, considering the probability of the Plan’s funded ratio falling below 100% and an additional (undesirable) threshold.
<b>Affordability</b>	The risk of the Plan’s contribution rates increasing, particularly to a level that may cause financial strain for the employers and Plan’s active members.	Contribution rate projections over a 20-year period are the primary analysis, including mean/median (expected) outcomes for the Plan’s future contribution rate and CVaR reflecting undesirable outcomes at a 95% confidence level.	Affordability thresholds are assessed, considering the probability of the contribution rate rising above 25% p.a., as well as the year-on-year probability of the contribution rate increasing by at least 1%.
<b>Investment Objectives</b>	This is the risk of the Plan’s investment returns not meeting the long-term target, as defined by the discount rate used to value going concern liabilities.	Investment return projections over a 20-year period are the primary analysis, including mean/median (expected) outcomes for the Plan’s future portfolio returns and CVaR reflecting undesirable outcomes at a 95% confidence level.	An investment threshold is assessed, considering the probability of the Plan’s assets underperforming relative to the liability discount rate set by the Plan’s Actuary.
<b>Liquidity</b>	This is the risk associated with cash outflows from the Plan exceeding cash inflows from contributions, given the Plan is now cashflow negative and is expected to remain so for the foreseeable future.	Net cashflow projections over a 20-year period are the primary analysis, both in absolute terms and as a proportion of the Plan’s projected asset market value.	Future cashflow shortfalls are assessed against the Plan’s expected level of investment income, beyond which undesirable asset sales may be required.

## APPENDIX 2 – SHORT-TERM RISK MANAGEMENT

### 1. Total Portfolio

#### a) Total Portfolio Risks and Metrics

The main metrics used to monitor and evaluate total portfolio risks are set out below. These metrics are included in AIMCo's quarterly reporting to PSPP Corporation, noting they may be updated periodically.

Risk	Description	Metric
<b>Portfolio</b>	The risk of a drawdown in the market value of the Plan's assets, i.e. the magnitude of potential losses in a severe event.	<b>Value-at-Risk (VaR)</b> is the primary metric, which measures the <i>minimum potential portfolio loss</i> that could occur over a one-year period. The primary VaR measure reflects a 95% (1-in-20 year) confidence level.
<b>Active</b>	The risk that the Plan's assets underperform relative to the policy benchmark, i.e. the magnitude of potential underperformance in a severe event.	<b>Active Value-at-Risk (aVaR)</b> is the primary metric, which measures the <i>minimum potential portfolio underperformance</i> , relative to the interim policy benchmark, that could occur over a one-year period, at a 95% confidence level.
<b>Liquidity</b>	The risk of the Plan not being able to meet its short-term liquidity demands (and therefore being forced to sell assets) in a severe liquidity event.	<b>Stressed Liquidity Coverage Ratio (SLCR)</b> is the ratio of liquidity supply to liquidity demand over the next three months, based on a pre-defined hypothetical stress scenario, which assumes severe losses across a range of assets and markets. SLCR below 100% would imply that liquidity demands under the stress scenario cannot be met and the Plan may have to sell assets at a loss to cover all demands.

#### b) Total Portfolio Limits and Operating Ranges

The total portfolio limits and operating ranges established for the Fund are set out below. Limits and operating ranges include desirable target ranges (the 'green' zone), warning ranges (the 'amber' zone) and limits for prompting action (the 'red' zone).

Risk Measure	Metric	Target Range (Green Zone)	Warning Range (Amber Zone)	Risk Limit (Red Zone)
Portfolio Risk	VaR 95%	<9.0%	9.0%-10.0%	>10.0%
Active Risk	aVaR 95%	<5.4%	5.4%-6.0%	>6.0%
Liquidity Risk	SLCR	> 150%	100% – 150%	< 100%

AIMCo is expected to monitor the risk measures frequently (at least weekly) using its risk system and in accordance with its Market and Credit Risk Management Policy. Ideally, the Plan’s portfolio should be operated in the **green zone** for all risk measures, however, AIMCo may operate the portfolio in the amber zone for one or more measures if deemed reasonable and appropriate. If a risk measure is in the **amber zone**, AIMCo is expected to provide an explanation to PSPP Corporation as to what caused the risk measure to move into the amber zone, as well as potential actions and considerations, at the next regular reporting point.

If a risk measure moves into the **red zone**, AIMCo is expected to promptly notify PSPP Corporation whenever a portfolio risk measure exceeds that limit. The communication must address reasons for the risk measure exceeding the limit and AIMCo’s assessment of the longer-term financial/funding risks to the Plan for being in the red zone, together with an estimate as to when the portfolio will be back within the amber or green zone. If in the opinion of AIMCo, within a reasonable timeframe or given market circumstances, the portfolio should continue to be operated in the red zone, then AIMCo is expected to promptly notify PSPP Corporation and will recommend an appropriate course of action.

**2. Product Risks, Metrics and Controls**

The key metrics and controls that are established at the product level for the public equity portfolio, fixed income portfolio and illiquid portfolio are set out below. These metrics and controls are included in AIMCo’s quarterly reporting to PSPP Corporation, noting they may be updated periodically.

Product	Metrics	Controls
<b>Public Equity Portfolio</b>	Active risk metrics including tracking error, beta and aVaR are considered at the PSPP Public Equity portfolio level and individual product level. The decomposition of active risk by different factors (e.g. country, sector, currency) is also reviewed.	Active risk controls (set by AIMCo) are reviewed and assessed for each of the Public Equity products, including for tracking error, beta, active country allocations, active sector allocations and individual security allocations.  Stress testing is considered at the PSPP Public Equity portfolio level, including factor shocks, historical scenarios and hypothetical stresses.



Product	Metrics	Controls
<b>Fixed Income Portfolio</b>	Active risk, duration and credit risk metrics are considered at the PSPP Public Fixed Income portfolio level (Universe Bonds and Money Market), as well as at the Private Fixed Income product level (Mortgages and Private Debt & Loans). The decomposition of active risk is reviewed, along with the breakdown of duration and credit risk by maturity and issuer.	Active risk controls (set by AIMCo) are reviewed and assessed for each of AIMCo's Fixed Income products, including aVaR, active duration, active credit allocations and individual issuer allocations.  Stress testing is considered at the Fixed Income product level, including factor/duration shocks and historical scenarios.
<b>Illiquid Portfolio</b>	N/A	Active risk controls (set by AIMCo) are reviewed and assessed for each of AIMCo's Illiquid products (Infrastructure, Renewable Resources, Private Equity, Domestic Real Estate and Foreign Real Estate). There are controls for aVaR, public market exposure, single sector exposure, single company/asset exposure and leverage exposure, amongst others specific to each product.