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Memorandum

To: State of California Savings Plus Program
From: Callan LLC
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Subject: Liquidity and Rebalancing Policies

This policy outlines the liquidity management and rebalancing activities needed for an effective and efficient execution of the Savings Plus Program (Program). The general liquidity and rebalancing policies establish a consistent and objective processing framework for the overall Program. The specific liquidity and rebalancing policies present detailed recommendations for each investment option, including which specific liquidity vehicles are utilized and how rebalancing is implemented.

Background & Recommendations

Within an investment option comprised of multiple separate accounts and/or fund vehicles, identifying one component to serve as the primary vehicle through which funds are contributed and disbursed reduces transaction costs and mitigates operational risk; this component is considered the “liquidity vehicle” and is typically a daily valued index fund. The goal of an effective liquidity management structure is to minimize transaction costs associated with market trading and to maximize the intended asset class exposure. The Rebalancing Guidelines and Liquidity Vehicles attachment designates liquidity vehicles for each investment option.

Rebalancing asset and manager allocations is necessary to control risk. Without periodic rebalancing activity, actual allocations drift off - target and disrupt the intended balance between risk and reward. Rigorous adherence to a formal rebalancing policy eliminates the temptation to engage in discretionary asset allocation decisions, which is particularly important in volatile markets when emotions may obscure objectivity and lead to suboptimal decisions. Rebalancing ranges should be tested monthly to ensure that the Program’s fund options are not diverging from their intended benchmarks. If rebalancing is necessary, the Recordkeeper/Custodian handles the rebalancing and alerts the investment managers of cash movements four days prior to actual activity. The policy dictates that the Recordkeeper/Custodian rebalance halfway back to the target allocation from the tolerance limit. The Rebalancing Guidelines and Liquidity Vehicles illustration depicts the tolerance ranges and rebalancing rules for Investment Options/Managers. Implementation by the Recordkeeper/Custodian requires standing instructions issued by the Program and acceptance by the Recordkeeper/Custodian.

Policy Overview

Liquidity Policy

The Program is structured in such a way that each investment option will include a liquidity vehicle in the form of a highly liquid, daily‐valued index fund or similar alternative. Rather than maintain a large cash position (which can create performance drag in up markets) or force individual separate account managers to trade on a daily basis in the open market (which increases transaction costs and operational risk), daily participant cash flows will be effected within the designated liquidity vehicle except for multi‐asset solutions including the Target Date Fund suite where balanced exposure is critical. The goal is to avoid situations where an active manager may have to buy securities one day to accommodate participant contributions, and then sell those same positions shortly thereafter to accommodate participant redemptions. The following guidelines serve as a general approach for determining the liquidity vehicle:

For single asset class funds (e.g. Active Core Options):

- The index fund is the liquidity vehicle for participant cash flows.

For multiple asset class funds (e.g., Target Date Funds):

- There is no designated liquidity vehicle for participant cash flows, as they are processed at the underlying fund level.
- There is a designated liquidity vehicle that only applies for fees and expense reimbursements at the plan level. The designated vehicle is a highly liquid fund with the largest allocation.

When selecting a liquidity vehicle, the most important factor to consider is the liquidity of the underlying securities, followed by allocation size. Resultantly, in some cases, it may very well be most appropriate to assign a fund with the most favorable liquidity characteristics as the liquidity vehicle despite not holding the largest strategic allocation in a particular investment option.

Rebalancing Policy

Over time, as some asset classes outperform and others underperform relative to their benchmarks, portfolio investment allocations naturally drift from their strategic target allocations. Rebalancing, by moving funds from the asset classes that are preforming well to those that are not, will realign the portfolio more closely with the strategic target allocation. Rebalancing reduces tracking error, a measure of how closely portfolio returns follow the returns of the portfolio benchmark, by tightening the distribution

of returns around the target return. While this approach dampens strongly positive returns, there are also fewer strongly negative returns.
Callan recommends a tolerance band around every investment manager account held within each investment option. To determine the precise range, we consider a multitude of unique characteristics including the asset class type, volatility, and transaction costs associated with the asset class. Less volatile asset classes and fewer funds contribute to a wider tolerance range, since those factors generally lead to less drift from the strategic allocation. In addition, high transaction costs will also lead to a wider tolerance range because if rebalancing activity is triggered too frequently, the cost effectiveness of rebalancing is also reduced.

Rebalancing Implementation

Implementation of the rebalancing policy requires a clear process agreed between the Program and the Recordkeeper/Custodian. The Recordkeeper/Custodian will test each investment option on the fourth trading day of each new month, using the prior trading day's closing values. This intended schedule is designed to permit the cash flows from monthly participant payroll funding to clear before the rebalancing testing occurs, thereby streamlining the process.

If the portfolio allocation is found to be outside the permitted tolerance range, the Recordkeeper/Custodian will alert the affected investment managers to expect a cash contribution (redemption) in their account four days following, when rebalancing occurs. The Recordkeeper/Custodian should send prompt notification to the investment manager as soon as the funds are in the account. While the rebalancing computation is targeted for the fourth business day, implementation instructions may be issued on the fourth or fifth business day, thereby allowing for time for potential schedule impediments.

Ideally, the Recordkeeper/Custodian should rebalance to a level where the Program incurs the lowest total transaction costs while staying within a reasonable risk tolerance from the strategic target allocation. The high level summary of the rebalancing process is that funds are moved from those components that have exceeded their upper tolerance limits to components that are most underfunded. Conversely, where a component has exceeded its lower tolerance limit, funds are moved from components that are most over funded.

Rebalancing Examples

The examples below depict possible rebalancing scenarios. The column labelled "Actual" represents the allocation at the time the Recordkeeper/Custodian performs the monthly rebalancing test.

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Example A

In the example below, at least one of the investment funds is out of the tolerance range so that rebalancing is necessary. It is important to note that although some of the allocations have changed, it is only necessary to rebalance the investment funds that are out of their tolerance range. The Final Allocation column depicts the ending allocation after rebalancing has occurred, where all of the resulting allocations are within the tolerance range.

In Example A, the actual allocation for Active Manager A is above the Upper Limit while Active Manager C is below the Lower Limit. Active Manager A is rebalanced back to the mid‐point Upper Target and Active Manager C is rebalanced up to the mid‐point Lower Target. No other components need to be rebalanced as they are within the upper and lower limits (i.e. tolerance range).

	Strategic Target Allocation	Tolerance Range + / -	Lower Limit	Upper Limit	Mid-Point Lower	Mid-Point Upper	Actual	Initial Rebalance	Final Allocation
International Index	10.00%	2.00%	8.00%	12.00%	9.00%	11.00%	11.00%	0.00%	11.00%
Active Manager A	25.00%	5.00%	20.00%	30.00%	22.50%	27.50%	32.60%	-5.10%	27.50%
Active Manager B	30.00%	6.00%	24.00%	36.00%	27.00%	33.00%	29.40%	0.00%	29.40%
Active Manager C	30.00%	6.00%	24.00%	36.00%	27.00%	33.00%	21.90%	5.10%	27.00%
Active Manager D	5.00%	1.00%	4.00%	6.00%	4.50%	5.50%	5.10%	0.00%	5.10%
Total	100.00%						100.00%		100.00%

Example B

In this example, the Large Cap Index Fund needs to shed 3.92% and the Mid Cap Fund needs to gain 1.15% to reach their respective Mid‐Point Targets. The important aspect to note about Example B is that, after the initial rebalance, a residual of 2.77% remains to be reallocated. Consequently, the Interim Asset Allocation A only adds up to 97.23%.

	Strategic Target Allocation %	Tolerance Range + / -	Lower Limit	Upper Limit	Mid-Point Lower Target	Mid-Point Upper Target	Actual	Initial Rebalance	Interim Allocation A
Large Cap Index Fund	11.10%	1.96%	9.14%	13.06%	10.12%	12.08%	16.00%	-3.92%	12.08%
Large Cap Fund	15.86%	2.81%	13.05%	18.67%	14.46%	17.27%	17.00%	0.00%	17.00%
Mid Cap Index Fund	4.61%	0.98%	3.63%	5.59%	4.12%	5.10%	4.00%	0.00%	4.00%
Mid Cap Fund	5.76%	1.22%	4.54%	6.98%	5.15%	6.37%	4.00%	1.15%	5.15%
Small Cap Index Fund	1.84%	0.39%	1.45%	2.23%	1.65%	2.04%	2.00%	0.00%	2.00%
Small Cap Fund	2.30%	0.49%	1.81%	2.79%	2.06%	2.55%	2.50%	0.00%	2.50%
International Index Fund	17.13%	3.51%	13.62%	20.64%	15.38%	18.89%	14.00%	0.00%	14.00%
International Fund	21.40%	4.39%	17.01%	25.79%	19.21%	23.60%	20.50%	0.00%	20.50%
Bond Index Fund	3.75%	0.42%	3.33%	4.17%	3.54%	3.96%	4.00%	0.00%	4.00%
Bond Fund	6.25%	0.85%	5.40%	7.10%	5.83%	6.68%	6.00%	0.00%	6.00%
Rhumbline TIPS Index Fund	4.00%	0.52%	3.48%	4.52%	3.74%	4.26%	4.00%	0.00%	4.00%
Cohen & Steers Real Assets	6.00%	0.75%	5.25%	6.75%	5.63%	6.38%	6.00%	0.00%	6.00%
Total	100.00%						100.00%	-2.77%	97.23%

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At first, the remaining residual of 2.77% is applied to the components that are below their mid‐point lower target in a sequential order starting with the component farthest from the mid‐point. The International Index Fund and Mid Cap Index components are moved up to their mid‐point lower targets in Example B, resulting in Interim Allocation B. If all components have reached their mid‐point lower rebalance targets and a residual amount still remains, then the residual is distributed proportionately to all components that are below target based on the distance from the strategic target allocation. In Example B, after rebalancing Funds to the mid‐point lower targets a residual of 1.27% still remains. Consequently, the Interim Asset Allocation B only adds up to 98.73%. The remaining 1.27% is proportionately spread across four Funds which are below target based on distance from the strategic target allocation. The Final Allocation now adds to 100.0%.

	Shortfall to Mid-Point Lower Target	Interim Allocation B	Shortfall to Target	Proportion	Final Allocation
Large Cap Index Fund		12.08%			12.08%
Large Cap Fund		17.00%			17.00%
Mid Cap Index Fund	0.12%	4.12%	0.49%	13.05%	4.29%
Mid Cap Fund		5.15%	0.61%	16.25%	5.36%
Small Cap Index Fund		2.00%			2.00%
Small Cap Fund		2.50%			2.50%
International Index Fund	1.38%	15.38%	1.76%	46.73%	15.97%
International Fund		20.50%	0.90%	23.97%	20.81%
Bond Index Fund		4.00%			4.00%
Bond Fund		6.00%			6.00%
Rhumbline TIPS Index Fund		4.00%			4.00%
Cohen & Steers Real Assets		6.00%			6.00%
Total		98.73%			100.00%