

Memorandum

To: ISO Board of Governors

From: Ryan Seghesio, Chief Financial Officer & Treasurer

Date: March 14, 2018

Re: 2017 Annual Investment Performance Report

This memorandum does not require Board action.

EXECUTIVE SUMMARY

The investment policy of the California Independent System Operator Corporation requires the Chief Financial Officer to submit an annual investment report to the Board of Governors. This report provides the Board with unaudited information about the 2017 investment performance of the various unrestricted and restricted fund balances held by the ISO. In general, the funds we invest are from our conventional business operations, generation interconnection deposits, collateral and market related collections. Because of the nature of the funds, we pursue a conservative investment approach focused on principal preservation and liquidity.

- As of December 31, 2017, all portfolios were in compliance with ISO investment policies.
- During 2017, the ISO achieved a total return of 1.89% on the unrestricted cash and investment balance, which was \$196.5 million at the end of the year. This compares very favorably to the custom benchmark we track performance against which returned 1.12%. Although the unrestricted portfolio benefited from a small portion of the funds (\$9.6 million) invested in long-term assets outside of the scope of the benchmark. Total return information on other portfolios will be described in the report.
- Interest rates experienced a flattening of the yield curve cycle during the year as the short-term part of the curve reacted to three more Federal Open Market Committee interest rate increases while the long-term part of the curve declined due to low inflation.

The following table shows the level of U.S. Treasury interest rates at the end of the previous two years:

U.S. Treasury Bond	Yield as of 12/31/16	Yield as of 12/31/17
2-year	1.20%	1.89%
3-year	1.47%	1.98%
5-year	1.93%	2.20%
10-year	2.45%	2.40%

A brief summary of key portfolio characteristics follows, and a detailed list of investments is in Attachment 1.

DISCUSSION AND ANALYSIS

Unrestricted portfolio

The market value of the ISO's unrestricted portfolio as of December 31, 2017 was \$196.5 million. This portfolio contains the funds received by the ISO for grid management charges and other revenue collections. These funds are used for the general corporate purposes of the ISO including: operations and maintenance expenses, debt service, capital expenditures and various reserves. The portfolio's total return for 2017 was 1.89%; although, the portfolio benefited greatly from the return on the long-term assets associated with the Retiree Medical Plan. These assets, totaling \$9.6 million at the end of the year, have been earmarked as assets related to the ISO Retiree Medical Plan and are invested under a separate investment policy

Excluding the effects of those assets, the remaining \$186.9 million portfolio returned 1.03% and had a duration of 1.2 years as of December 31. Duration is one measure of risk to a fixed income portfolio and is highly correlated to weighted average days to maturity. Essentially, duration indicates the approximate percentage price movement of the portfolio given a 100 basis point (1%) move in interest rates. The portfolio actually experienced an income return of 1.30%, which was offset by negative price return of (0.26%) due to the rising short-term interest rates.

There were no significant changes to the investment strategy during the year. Purchases were spread from one to five years with approximately equal exposure to U.S. Treasury, government agency, and corporate debt.

Key portfolio stats by quarter are contained in the table below:

UNRESTRICTED FUNDS (excluding Retiree Medical assets)	Q1-2017	Q2-2017	Q3-2017	Q4-2017
Balance (in millions)	\$142.9	\$152.4	\$175.4	\$186.9
Year to date return	0.32%	0.65%	0.97%	1.03%
Benchmark return	0.39%	0.81%	1.18%	1.12%
Yield to maturity	1.36%	1.23%	1.37%	1.51%
Duration	1.6 years	1.4 years	1.3 years	1.2 years

Retiree Medical Plan funds

The ISO sponsors the California ISO Retiree Medical Plan, a defined benefit plan, to provide post-employment health care benefits to eligible employees who retire from the ISO. Assets associated with the plan are invested under a separate investment policy approved by the Board which aligns the investment strategy of the assets with the long-term nature of the liabilities. The designated assets are held in two accounts: 1) a trust account which was established to hold the assets associated with the liabilities of current retirees and fully eligible employees; and 2) a custody account which holds designated assets from the ISOs unrestricted funds relating to the balance of the liabilities.

As of December 31, 2017, the market value of the trust was \$11.1 million and the custody account was \$9.6 million. The combined portfolios returned 16.4% for the year as both equity and long-term fixed income markets experienced positive returns. The target asset allocation remains tied to the “Moderate Portfolio” strategy in the ISO’s 401(k) plan, which is 55% growth, 35% stability, and 10% real return.

RETIREE MEDICAL PLAN FUNDS	Q1-2017	Q2-2017	Q3-2017	Q4-2017
Balance (in millions)	\$18.7	\$19.4	\$20.0	\$20.8
Year to date return	4.99%	8.59%	12.36%	16.37%

Bond proceeds

In 2017, the bond proceeds related to the 2013 bond issue were fully exhausted. These proceeds represented the remaining funds from the 2009 bonds that were being used for capital expenditures. The investment of bond proceeds is primarily restricted to U.S. Treasury and government agency securities and the yield that the ISO can earn is restricted by IRS arbitrage rules.

As of December 31, 2017, there were no remaining bond proceeds. While funds were available in 2017, they were invested in a government money market fund.

BOND PROCEEDS	Q1-2017	Q2-2017	Q3-2017	Q4-2017
Balance (in millions)	\$2.3	\$1.5	\$0.1	\$0.0
Year to date return	0.01%	0.08%	0.19%	0.21%
Yield to maturity	0.19%	0.43%	0.47%	n/a
Duration	0.0 years	0.0 years	0.0 years	n/a

Generation interconnection project related funds

The ISO maintains a pool of funds related to generation interconnection project deposits. As of December 31, 2017, the market value of these funds was \$70.9 million. These funds are invested in money market funds and FDIC-insured instruments. The total return on these funds was 1.23% and the duration of the portfolio was 1.8 years.

GIP DEPOSITS	Q1-2017	Q2-2017	Q3-2017	Q4-2017
Balance (in millions)	\$68.2	\$92.5	\$77.4	\$70.9
Year to date return	0.28%	0.57%	0.87%	1.23%
Yield to maturity	1.12%	1.17%	1.27%	1.28%
Duration	1.9 years	1.4 years	1.7 years	1.8 years

Market funds

The ISO manages restricted funds for market participants consisting of amounts which are to be remitted back to market participants or others on their behalf. The majority of these funds are the required collateral deposits that the ISO collects as part of its credit policy to reduce the impact of defaults. As of December 31, 2017, the market value of these funds was \$258.9 million. Due to their liquid nature, these funds are invested in money market funds and, therefore, have no duration risk. The year to date return on these funds was 0.73%.

MARKET FUNDS	Q1-2017	Q2-2017	Q3-2017	Q4-2017
Balance (in millions)	\$268.6	\$277.6	\$224.2	\$258.9
Year to date return	0.11%	0.28%	0.49%	0.73%
Yield to maturity	0.61%	0.84%	0.90%	1.19%
Duration	0.0 years	0.0 years	0.0 years	0.0 years