NOTE: These minutes were approved and executed at the October 18, 2013 Independent Investment Committee meeting.

Independent Investment Committee September 20, 2013

Public Minutes

New Hampshire Retirement System 54 Regional Drive Concord, NH 03301

Committee Members: Harold Janeway, Chair; David Jensen; Patrick O'Donnell; Catherine Provencher; and Hersh Sosnoff.

NHRS Trustees: Dean Crombie.

Staff: George Lagos, Executive Director; Larry Johansen, Director of Investments; Jack Dianis, Director of Finance; Jeff Gendron, Investment Officer, and Scott Needham, Investment Analyst.

NEPC, LLC: Kevin Leonard, Partner and Senior Consultant; Sean Gill, Partner; Phillip Nelson, Research Consultant; and Scott Driscoll, Consultant.

Mr. Janeway called the meeting to order at 9:00 a.m.

Mr. Janeway surveyed the Committee for comments on the draft public and non-public minutes of the July 19, 2013 Investment Committee meeting. As there were none, a motion to approve the public and non-public minutes of the July 19, 2013 Investment Committee meeting was made by Mr. Jensen and seconded by Mr. O'Donnell. Mr. Sosnoff abstained from the vote, as he did not attend the July 19th Committee meeting. The motion carried unanimously.

Mr. Johansen reviewed the performance of the NHRS Total Fund portfolio for periods ending June 30, 2013. For the fiscal year ended June 30th, the Total Fund returned 14.5%, exceeding the return of its custom benchmark of 13.5% by 100 basis points. For the three-year period ending June 30th, the Total Fund returned 12.4%, exceeding the return of its custom benchmark of 12.1% by 30 basis points. For the twenty-year period ending June 30th, the Total Fund achieved a return of 7.9%.

He then offered a short tutorial on NHRS assets and liabilities to keep investment returns in context, explaining that the impact of short-term

investment performance would be mitigated by the five year actuarial smoothing technique utilized in the annual valuation.

Mr. Johansen provided a brief update on the returns of the Marketable Investments portfolio through August 31, 2013. For the two-month fiscal year-to-date period ending August 31, 2013 the Marketable Investments portfolio returned 1.6%, trailing the return of its custom benchmark of 1.9% by 30 basis points. Mr. Johansen commented that the two-month return is positive, despite the negative returns of global markets during the month of August.

Mr. Johansen acknowledged that the redemption of the fund-of-funds absolute return portfolio managed by Arden Asset Management continues to progress. He noted that more than 70% of the portfolio has been liquidated since the System began the redemption process earlier this year, and that the remaining balance of approximately \$12.2 million represents the illiquid portion of the portfolio which will slowly be distributed to NHRS over time.

Mr. Johansen commented that staff and NEPC would review the System's core non-U.S. equity portfolio prior to the October Committee meeting. The Committee briefly reviewed the historical returns of the two existing core non-U.S. equity managers, Fisher Investments and Thornburg Investment Management.

Mr. Johansen referred to the "Independent Investment Committee Charter". He noted that the System's Compliance Officer had reviewed the Charter and made a couple of revisions for the Committee's consideration, in an effort to make the Charter more consistent with other NHRS governing documents. The Committee discussed the recommended revisions. On a motion by Mr. Sosnoff, seconded by Mr. Jensen, the Committee voted unanimously to approve the Independent Investment Committee Charter as presented, with the addition of one additional change as requested by the Committee.

Mr. Johansen referred to the "Six-month Investment Work Plan" dated August 19, 2013. He noted that the System's contracts with Abel/Noser Corp. ("Abel/Noser"), who provides trading cost analysis to NHRS, and The Townsend Group ("Townsend"), the System's discretionary real estate manager, are both up for renewal at the end of 2013. He commented that Townsend is scheduled to present to the Committee in December and Abel/Noser is scheduled to present to the Committee in February 2014. He recommended that the Committee hold contract renewal votes for both of these firms in advance of their scheduled presentations, given the Committee's familiarity with each firm. The Committee agreed to this approach.

Mr. Johansen commented that a thorough review of the alternative investments portfolio will be conducted at the December Committee meeting. The status of each limited partnership to which the Committee has made a commitment in recent years will be reviewed.

Mr. Johansen provided a brief introduction of Industry Ventures ("IV"). He referenced the existing NHRS investment in IV Secondary Fund VI ("Fund VI"); the tentative \$20 million commitment to IV Secondary Fund VII ("Fund VII") that the Committee agreed upon at its July 19th meeting; and the opportunity to invest in IV Partnership Holdings Fund III ("Fund III"). Mr. Gill provided a brief overview of Fund VII and Fund III.

Mr. Gill responded to questions from the Committee regarding the differences between Fund VII and Fund III. He indicated that both funds represent attractive opportunities given NEPC's view on the current status of the venture capital market. He discussed manager concentration in the private equity space, and commented that NHRS commitments of \$20 million each to Fund VII and Fund III would not result in a concentration of funds managed by IV that would be concerning at the aggregate NHRS private equity portfolio level. He commented that NEPC has several years of experience with IV and predecessor funds.

Mr. Roland Reynolds, Managing Director of IV, presented an overview of the firm and the opportunity to invest in its Fund VII and Fund III. He referred to the "Industry Ventures Overview" presentation dated September 20, 2013.

In response to questions from the Committee, Mr. Reynolds discussed the current return environment associated with the venture capital market in comparison to historical returns. He explained the incentive fees associated with Fund VII and Fund III. He discussed the audit process associated with the funds; IV's downside risk protection efforts with respect to investing in early-stage venture capital opportunities; and the diversification efforts of IV with regard to the funds' underlying holdings.

Responding to questions from the Committee, Mr. Reynolds discussed the potential for off-shore holdings within Fund VII and Fund III, which he estimates to be approximately 10% of each fund. He discussed the due diligence process IV follows with regard to non-U.S. companies. He discussed the dual impacts of value investing, associated with secondary investing, and underlying asset appreciation due to post-purchase events, more associated with early-stage venture investing, on the expected returns associated with Fund VII and Fund III, respectively.

The Committee discussed the opportunity to invest in IV Fund VII and Fund III. Mr. Gill reviewed the incentive fees associated with the two funds. He indicated that IV's competitive advantage is its relationship with the general partners with which the firm invests. The Committee discussed IV's ability to add value and the firm's track record in the venture capital space. Mr. Gill discussed IV's general partner network; the background of IV's investment professionals; and the firm's competition in the venture capital space.

A motion was made by Mr. Jensen and seconded by Mr. Sosnoff to commit \$20 million to Industry Ventures Partnership Holdings Fund III, with the recognition that the \$20 million exceeds the 10% commitment limitation guideline, subject to contract and legal review. The motion carried unanimously.

A motion was made by Ms. Provencher and seconded by Mr. Sosnoff to confirm the \$20 million commitment to Industry Ventures Secondary Fund VII made at the July 19th Investment Committee meeting, subject to contract and legal review. The motion carried unanimously.

Mr. Johansen discussed the System's existing stable of transition managers, which includes: BlackRock; BNY ConvergEx Group ("ConvergEx"); Northern Trust; and State Street. He noted that ConvergEx recently withdrew from the global transition space; and that Northern Trust has consistently produced pre-trade bid requests that are out of line with the other firms. He commented, the majority of NHRS manager transitions in recent years have been conducted by BlackRock and State Street. He proposed that staff work with NEPC to produce a revised pool of transition managers for the Committee's consideration at the October meeting. The Committee agreed with this approach.

Mr. Johansen referenced the Committee's discussion of fixed income portfolio management at its July meeting and its interest in exploring fixed income mandates that are less constrained than the System's existing portfolios. He noted that subsequent to the July meeting, staff has met with NEPC and several investment managers that offer more unconstrained fixed income strategies to understand the differences between the various strategies offered in the marketplace. He commented that the majority of strategies in this space do not have long track records and attempt to achieve positive returns in various market conditions in different ways.

Mr. Nelson referred to the "Absolute Return Fixed Income Manager Review" presentation dated September 2013. Mr. Leonard explained the efforts of NEPC with regard to the creation of the Manager Review presentation. Mr. Nelson commented that NEPC sought a list of

products that would provide investors with attractive return potential while maintaining a liquid, uncorrelated profile that offers downside protection given the potential of a rapid rise in global interest rates.

In response to questions from the Committee, Mr. Nelson commented that unconstrained fixed income strategies such as those considered in the Manager Review presentation are gaining in popularity among NEPC's public fund clients, specifically those that seek to reduce the volatility of returns. The Committee noted that the profile of NHRS is such that the portfolio can assume a higher level of volatility in an effort to achieve attractive returns than perhaps NEPC's typical public fund client, as the NHRS is not liquidity constrained.

The Committee discussed benchmarking considerations associated with unconstrained fixed income investing; the appropriate asset class under which strategies such as those outlined in the Manager Review would fall; and the potential risks associated with these types of strategies.

Mr. Nelson reviewed the firms that offer unconstrained bond portfolios and the factors to consider when selecting firms in this space, including: a firm's macroeconomic competencies; its analytic capabilities; and the sophistication of its risk systems. He discussed the hedging strategies that are implemented within such strategies. He reviewed the turnover statistics associated with unconstrained fixed income portfolios, given the utilization of futures and derivatives within these strategies. The Committee discussed the fees charged for these types of portfolios.

The Committee agreed to continue looking at different strategies and discussing the potential to invest in unconstrained fixed income portfolios, such as those included in the Manager Review presentation, at future meetings.

The Committee briefly noted the macroeconomic presentations at the July meeting, and agreed to further discuss potential topics for the next series of macroeconomic presentations at its January 2014 meeting. Mr. Johansen reviewed the preliminary agendas for the October, November, and December Committee meetings.

On a motion by Mr. Sosnoff, seconded by Mr. Jensen, the meeting adjourned at 12:00 p.m.