NOTE: These minutes were approved and executed at the June 22, 2012 Investment Committee meeting.

Independent Investment Committee May 18, 2012

Public Minutes

New Hampshire Retirement System 54 Regional Drive Concord, NH 03301

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

NHRS Trustees: Dean Crombie; Dick Gustafson, Ph.D.; and Kate McGovern, Ph.D.

Staff: Larry Johansen, Director of Investments; Marty Karlon, Public Information Officer; John Browne, Internal Auditor; Jeff Gendron, Investment Officer; Scott Needham, Investment Analyst; and Greg Richard, Investment Analyst.

NEPC, LLC: Kevin Leonard, Partner and Senior Consultant; Sean Gill, Partner, and John Minahan, Ph.D., Senior Investment Strategist.

Mr. Janeway called the meeting to order at 9 a.m. He surveyed the Committee for comments on the draft public and non-public minutes of the April 20, 2012 Investment Committee meeting. As there were none, a motion to approve the public and non-public minutes of the April 20, 2012 Investment Committee meeting was made by Mr. O'Donnell and seconded by Mr. Jensen. The motion carried unanimously.

Mr. Johansen provided a brief update of the performance of the System's Marketable Assets component, which represents approximately 90% of the Total Fund. Through April 30th, the Marketable Assets component returned 4.2% for the 3-month period; 9.0% for the calendar year-to-date period; and 15.3% for the 3-year period. The Marketable Assets component is ahead of its benchmark by 40, 90, and 50 basis points for the 3-month, calendar year-to-date, and 3-year periods, respectively.

Mr. Johansen updated the Committee on the status of the Investment Consulting Services RFP. He indicated that 16 RFP responses were received, 7 of which were from qualified firms seeking the combined general and alternative investment consulting mandates. He commented

that staff is in the process of scheduling interviews with a subset of the RFP candidate firms, with the objective of completing these interviews prior to the June Committee meeting. The Committee agreed that they would like to have presentations from three finalist candidate firms, to assist them in making a selection of one firm to recommend to the Board.

Mr. Johansen referred to the Legislative Update dated May 8, 2012. He indicated that the House Bill 2 technical corrections bill was moving smoothly through both the Senate and the House. Regarding each legislative body's respective defined contribution bill, Mr. Johansen noted that the Senate has tabled its bill, which was designed to establish a study commission, and that the House has passed it's bill, also designed to establish a study commission and potentially replace the NHRS defined benefit plan with a defined contribution plan. He commented that the House's bill is currently under consideration by the Senate.

Mr. Johansen referenced the Work Plan dated April 25, indicating that the Asset Liability Study process would continue at today's meeting with a discussion of potential asset class mixes. He acknowledged that Dr. Minahan would be making a presentation on tail risk hedging later in the meeting. He added that staff and NEPC continue to work on the calendar year 2012 Private Equity Work Plan and that the System's discretionary real estate manager, The Townsend Group, would be making a presentation on the Fiscal Year 2013 Real Estate Investment Plan and providing a portfolio update at the June Committee meeting.

Mr. Johansen updated the Committee on his recent visit to the offices of large-cap U.S. equity manager Institutional Capital, LLC (ICAP). He commented that he met with employees of ICAP at all different levels of the organization to discuss the recent hiring of Tom Cole as Co-Director of Research, and that everyone he met with expressed enthusiasm about the addition of Mr. Cole to the team. Mr. Johansen and NEPC both recommended renewing the System's management agreement with ICAP, agreeing to continue monitoring and report any developments that may occur at the firm given the recent change to the management team. A motion was made by Mr. Sosnoff and seconded by Mr. Jensen to renew the investment management agreement with Institutional Capital, LLC through June 2014. The motion carried unanimously.

Mr. Johansen reviewed the historical performance of core non-U.S. equity manager Fisher Investments (Fisher). In response to a Committee question, Mr. Johansen acknowledged that Fisher's retail-focused business initiatives have not interfered with their institutional business efforts in providing asset management services to the System. Mr. Leonard responded to Committee questions by acknowledging that while Fisher is not on NEPC's Focused Placement List due to their limited

downside protection ratio and their focus on the retail business sector, NEPC maintains a "neutral" rating on the manager. He noted that NEPC recommends that NHRS renew the System's management agreement with Fisher. A motion was made by Mr. Jensen and seconded by Mr. O'Donnell to renew the investment management agreement with Fisher Investments through June 2014. The motion carried unanimously.

Mr. Johansen referenced recent presentations that Thornburg Investment Management (Thornburg) has made to the Committee and he spoke to the stability of the investment team at Thornburg. In response to Committee questions, Mr. Leonard confirmed that the SEC investigation facing Thornburg Mortgage has no impact on Thornburg Investment Management, as the two businesses are completely separate entities. Mr. Leonard also indicated that NEPC feels that Thornburg is close to capacity in their core non-U.S. equity strategy in which NHRS is invested, and that NEPC has expressed these feelings to Thornburg directly. He added that the recent capitalization shift within Thornburg's portfolio is something that NEPC is monitoring, but does not feel it is an immediate concern. The Committee requested that staff and NEPC express their concerns about the portfolio's capacity limitations and recent capitalization shifts to Thornburg. Mr. Johansen and Mr. Leonard agreed to express these concerns on behalf of the Committee. A motion was made by Mr. Jensen and seconded by Ms. Provencher to renew the investment management agreement with Thornburg Investment Management through June 2014. The motion carried unanimously.

Mr. Johansen updated the Committee regarding a due diligence meeting and conference calls that staff and NEPC conducted with three managers that have experienced recent relative underperformance: Batterymarch Financial Management; CS McKee; and Thompson, Siegel & Walmsley. Mr. Johansen referenced memos provided by NEPC regarding each of these managers, summarizing that each of the managers remain on NEPC's respective Focus Placement Lists; that the managers' relative underperformance is short-term in nature; and that NEPC expects these managers to outperform their respective benchmarks in the future. The Committee requested manager universe rankings in these memos in the future. Mr. Johansen indicated that each of the manager conversations was constructive and the managers acknowledged their recent underperformance and were receptive to the discussion with NEPC and staff.

Mr. Johansen informed the Committee that NHRS recently learned that Partner and Managing Director Scott Troeller of Veronis Suhler Stevenson (VSS) has resigned from the firm. VSS is a private equity general partner in which NHRS maintains a legacy portfolio investment, with a remaining market value of approximately \$13.5 million. He

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commented that the VSS fund in which NHRS invests is currently in wind-down mode. He noted that while Mr. Troeller is considered a key man at VSS, his departure does not trigger a key man provision, per the limited partnership agreement. Mr. Johansen indicated that NEPC and staff would continue to monitor the situation as it develops.

Mr. Janeway entertained a motion to convene into non-public session under RSA 91-A:3, II(c) to discuss matters which, if discussed in public, would likely adversely affect the reputation of a person, other than a member of the public body itself. A motion was made by Mr. O'Donnell and seconded by Mr. Jensen to enter into non-public session, in accordance with the aforementioned provision.

Roll call vote:

Aye: Mr. Janeway, Mr. Jensen, Mr. O'Donnell, Ms. Provencher and Mr.

Sosnoff. Nay: None

Motion carried.

The Committee discussed recent developments with Arden Asset Management, a firm that manages a fund-of-funds absolute return strategy in which NHRS invests.

A motion was made by Mr. Jensen and seconded by Mr. Sosnoff to conclude non-public session.

Roll call vote:

Aye: Mr. Janeway, Mr. Jensen, Mr. O'Donnell, Ms. Provencher and Mr.

Sosnoff. Nay: None

Motion carried.

A motion was my by Mr. Jensen and seconded by Mr. O'Donnell to accept Arden Asset Management's proposal to move to a separate account structure, subject to negotiation of terms. The motion carried unanimously.

Mr. Johansen reviewed with the Committee a new quarterly investment summary report from the Committee to the Board that NHRS Board Chair Lisa Shapiro, Executive Director George Lagos and he prepared. The Committee favorably reviewed the report.

Mr. Gill presented an educational overview of hedge funds. He referred to the "Hedge Fund Educational Overview" presentation dated May 18, 2012. In response to Committee questions, Mr. Gill indicated that NEPC's overall client base features broad hedge fund exposure that encompasses representation across the spectrum of hedge fund strategies. He acknowledged that there is a large dispersion between the top quartile of hedge fund managers and those outside the top quartile. The Committee discussed the fee structure of and benchmarking issues related to hedge funds. Responding to a Committee question about asset flows into hedge funds and related concerns of diminishing returns, Mr. Gill commented that the top quartile managers will limit their fund size to maintain their investment style and profile and that NEPC monitors hedge fund managers for consistency of process and style. He noted that NEPC anticipates consolidation among hedge fund-of-funds managers. The Committee agreed to continue considering an allocation to hedge funds and requested that NEPC present a hedge fund implementation plan specific to NHRS at the next meeting.

Mr. Leonard referred to the "Asset Liability Study" presentation dated May 3, 2012. He noted that staff and NEPC had met and discussed various potential asset allocation mixes, which were included in the meeting materials, for Committee discussion. In response to a Committee question, Dr. Minahan confirmed that NEPC's historical capital market expectations have typically been within one standard deviation of actual results over a ten-year period.

The Committee had a lengthy discussion about the various allocation mixes presented to them and discussed the potential for a dynamic asset allocation that would allow them to tactically shift between asset classes as they become overvalued and undervalued. In response to a Committee question, Mr. Leonard commented that some clients approach dynamic allocation through an allocation to a distinct "global tactical asset allocation" asset class. The Committee discussed the characteristics of various asset classes and whether or not an allocation to some of these asset classes may be attractive, based on the current market environment. The Committee decided it would be appropriate to schedule a special meeting focused specifically on the asset allocation recommendation decision, so that they could devote the appropriate level of discussion and debate to this decision. Mr. Johansen agreed to coordinate the special meeting so that it could be scheduled prior to the June 22 Committee meeting. The Committee agreed to focus on factor analysis in addition to statistical analysis at the special meeting.

Dr. Minahan referred to NEPC's "The Case Against Explicit Tail Risk Management" presentation dated May 18, 2012. In response to Committee questions, Dr. Minahan indicated that under certain

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circumstances, tail risk hedging strategies may make sense for a given investor, using the example of a public fund with significant liquidity concerns. He noted that extreme situations such as these do not apply to NHRS. In summary, he indicated that generally the costs of tail risk hedging outweigh the potential benefits. He indicated that he is not aware of an investor that successfully implemented a tail risk hedge prior to the financial crisis of 2008.

Mr. Leonard presented an overview of Total Fund performance for the period ended March 31, 2012. He referred to the "First Quarter 2012 Investment Performance Analysis" presentation. He noted that the gross Total Fund return of 8.5% for the first quarter ranks in the 20th percentile of the Independent Consultants Cooperative public fund universe for that period. In response to a Committee question, Mr. Leonard noted that no new concerns were raised during the recent due diligence visits and conference calls with underperforming managers conducted recently by NEPC and staff.

In response to a Committee request, Mr. Johansen indicated that staff and NEPC would work with the investment managers to develop a brief summary quarterly report.

Mr. Johansen noted that at the June meeting, the Committee will receive a contract renewal recommendation memo for the BlackRock S&P 500 portfolio, and reminded the Committee that they agreed it was unnecessary to meet with BlackRock at this time, given the performance and passive nature of the portfolio.

On a motion by Mr. Jensen, seconded by Mr. Sosnoff, the meeting adjourned at 12:42 p.m.