NOTE: These minutes were approved and executed at the November 16, 2012 Independent Investment Committee.

Independent Investment Committee
October 19, 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; and Hersh Sosnoff.

NHRS Trustees: Mr. Dean Crombie; Dr. Richard Gustafson; and Dr. Kate McGovern, Ph.D.

Staff: Larry Johansen, *Director of Investments*; Jack Dianis, *Director of Finance;* John Browne, *Internal Auditor*; Jeff Gendron, *Investment Officer*; and Greg Richard, *Investment Analyst.*

NEPC, LLC: Kevin Leonard, *Partner and Senior Consultant*; and Sean Gill, *Partner.*

Mr. Janeway called the meeting to order at 9:00 a.m. He surveyed the Committee for comments on the draft public and non-public minutes of the September 21, 2012 Investment Committee meeting. As there were none, a motion to approve the public and non-public minutes of the September 21, 2012 Investment Committee meeting was made by Mr. Sosnoff and seconded by Ms. Provencher. The motion carried unanimously.

Mr. Johansen stated that there were several handouts to supplement today's meeting. He began by summarizing a white paper from the Federal Reserve Bank of Dallas titled "Ultra Easy Monetary Policy and the Law of Unintended Consequences" noting that the white paper was distributed at the suggestion of Mr. Janeway. Mr. Johansen mentioned that there is also a brief recap memo of the white paper from NEPC's Chief Investment Officer (CIO), Erik Knutzen.

Mr. Johansen briefly reviewed the performance of the Marketable Investments portfolio through the period ending September 30, 2012. For the fiscal year-to-date through September 30th, the Marketable Assets portfolio has returned 5.4%, exceeding the return of its custom benchmark of 5.3% by 10 basis points. For the one-year period through September 30th, the Marketable Assets portfolio has returned 20.2%, exceeding the return of its custom benchmark of 19.0% by 120 basis points. For the five-year period through September 30th, the Marketable Assets portfolio has returned 2.6%, exceeding the return of its custom benchmark of 2.4% by 20 basis points.

Mr. Johansen referenced a memo from Loomis, Sayles & Company (Loomis), which manages a multi-sector fixed income portfolio on behalf of the System, indicating that Loomis announced organizational initiatives that bring together the equity and fixed income groups under the leadership of the firm's CIO, Jae Park. Mr. Park was previously CIO – fixed income. He stated that Lauriann Kloppenburg, former CIO - equity, would assume a new position as Chief Strategy Officer reporting to the firm's Chief Executive Officer, Robert Blanding. Mr. Johansen noted that NEPC concurs that the development is positive and would not have any significant impact on the fixed income portfolio managed by Loomis.

Mr. Johansen referenced the NEPC memo titled "Gaining Exposure to Private Equity and Private Debt" explaining that, unlike traditional assets, the synthetic market for private equity and private debt is extremely thin and given the cost; basis risk; and exposure risk, many investors forego a synthetic overlay program and, similar to NHRS, use liquid publicly traded programs as the funding source to build out private equity and private debt prudently over time. Mr. Gill confirmed that this approach is prudent, appropriate and reasonable.

Mr. Johansen informed the Committee that he met with NEPC on Friday, October 12th to discuss the implementation of the recent changes to the Fund's asset allocation policy. The changes include reducing the policy target allocation to Fixed Income from 30% to 25% with a corresponding increase to Alternative Investments from 10% to 15%. As a result of this meeting, the Committee received a couple of handouts which were not available in time to be mailed with the regular meeting materials. He summarized the NEPC memo titled "DRAFT - Alternative Assets Pacing Analysis" dated September 11, 2012 which outlines a reasonable approach to pacing investments into illiquid assets such as private equity and private debt. Mr. Johansen confirmed that a more formal pacing analysis will be presented at the November Committee meeting for discussion.

Mr. Johansen outlined a proposed plan to reach the new fixed income allocation target and referenced the NEPC memo titled "Fixed Income Portfolio Rebalancing Recommendation" dated September 7, 2012 and explained that the memo represents a preview of a recommendation that will be discussed in detail at the November Committee meeting. He mentioned that current fixed income portfolio is about 2.5% over the new 25% allocation target and noted that the recommendation would result in slight decreases to both the core and core-plus fixed income portfolios. He stated that the portfolio rebalancing could be accomplished for cash needs and capital calls within a reasonable period of time over the course of several months.

Mr. Johansen provided an overview of the high-level tasks and projects being addressed by the Committee and Staff and referred to the Work Plan and related cover memo dated September 26, 2012, indicating that the third quarter of fiscal year 2013 has been added to the Work Plan for the Committee's consideration. Committee members suggested revisions to include increased monitoring of the real estate portfolio given the recent change in the portfolio management on the NHRS account and also to include structuring time into Committee meetings to discuss global and macro economic issues that may impact the portfolio. A motion was made by Mr. O' Donnell and seconded by Mr. Jensen to approve the Work Plan for the third quarter of fiscal year 2013, to be revised as noted above. The motion carried unanimously.

The Committee discussed the presentation made by AllianceBernstein (AB) at the September Committee meeting. In response to a Committee member question, Mr. Leonard noted that the recent AB organizational changes are being monitored and confirmed that these changes are not expected to impact the NHRS portfolio. A motion was made by Mr. Sosnoff and seconded by Mr. Jensen to renew the investment management agreement with AB through November 2014. The motion carried unanimously.

The Committee discussed the presentation made by Thompson, Siegel & Walmsley (TS&W) at the September Committee meeting, as well as the portfolio's relative underperformance. Committee members noted that due to performance of this portfolio, close monitoring is necessary. Mr. Johansen confirmed that staff and NEPC are in close contact with TS&W and noted that the relationship is relatively new as the firm was retained less than two years ago. A motion was made by Mr. Jensen and seconded by Mr. Sosnoff to renew the investment management agreement with TS&W through November 2014. The motion carried unanimously.

Mr. Johansen provided an overview of the Draft Comprehensive Annual Investment Report (CAIR). The Committee provided feedback and suggestions to be incorporated. Mr. Johansen noted that he will incorporate the changes and suggestions and circulate a revised draft of the report for review by the Committee. He mentioned that the revised report will be discussed with the Board at the November Board meeting. In addition, the Committee will need to approve the final CAIR at the November meeting for approval by the Board at its December meeting.

The Committee discussed their questions and concerns regarding a potential investment in a "go anywhere" strategy which utilizes exchange-traded funds (ETFs) to invest amongst various asset classes. Mr. Johansen and Mr. Leonard provided a brief recap of the presentation made at the September Committee meeting by "go anywhere" investment manager Windhaven Investment Management (Windhaven). Mr. Johansen noted that Windhaven will present to the Committee again at this meeting as requested.

Mr. Stephen Cucchiaro, Chief Investment Officer; Mr. Bryan Olson, President; and Mr. John McManmon III, Managing Director, of Windhaven presented an overview of their firm and a review of the firm's investment strategies. They referred to "The New Hampshire Retirement System" presentation dated October 19, 2012.

In response to a question from the Committee, Mr. Cucchiaro indicated that investors should be skeptical of any quantitative, data-driven models which assume that the market is efficient; is based on historical correlations; and assumes a normal distribution. He explained that Windhaven's approach is fundamentally different than this approach as the firm drills down to the factors that drive asset class risk and returns and combines this factor analysis with behavioral finance observations. Mr. Cucchiaro explained that Windhaven does not use a black box, statistically-driven model but rather an approach driven by economics and logic.

Responding to Committee member questions, Mr. Cucchiaro noted that the portfolio will struggle in two very different markets. The first market being one in which, for example, the S&P 500 widely outperforms every other asset class since the Windhaven portfolio is more broadly-diversified. The second market in which Windhaven would struggle is one in which all asset classes decline at the same time. He noted that data suggests this occurs, on average, about once every one hundred months. Mr. Cucchiaro noted that the firm is very focused on protecting against significant drawdowns by diversifying across multiple asset classes and proportioning each asset class appropriately. Mr. Cucchiaro explained that this how Windhaven defines its "hedging" strategy as Windhaven does not use derivatives, leverage or options to hedge against perceived portfolio risks. He noted that this is a more effective and less costly way to hedge against portfolio risks over time.

Mr. Cucchiaro explained the portfolio construction process and noted that the process is designed to avoid significant drawdowns while maintaining the opportunity for upside. He mentioned that each major asset class has both a minimum and maximum allocation range in order to maintain a disciplined approach. Mr. Cucchiaro stated that the firm's 10-year track record illustrates returns that exceeded the benchmark while taking on less risk.

In response to Committee member questions, Mr. Cucchiaro summarized the ways in which the firm incorporates behavioral finance factors into the firm's strategy as well as the process the firm utilizes to develop its black swan scenarios used in its model.

Responding to Committee member questions, Mr. Cucchiaro described the recent tactical and strategic rebalancing across the portfolio's various asset classes. He noted that the firm has a succession plan in place and that this has been a priority for Charles Schwab Corporation, which now owns Windhaven. Mr. Cucchiaro confirmed that he is adequately challenged by his colleagues in the workplace as the investment process is a team effort.

The Committee held a lengthy discussion regarding the investment opportunity presented by Windhaven. In response to Committee member questions, Mr. Leonard discussed the 3 and 5-year performance, which lags the 10-year performance. He also noted that although assets under management (AUM) have increased substantially over the last several years, the increased AUM should not hinder the strategy since the strategy is implemented via liquid ETFs.

Mr. Jensen made a motion to retain Windhaven Investment Management to manage a portfolio mandate of $50 million within the Windhaven Diversified Growth strategy, for an initial two-year term, subject to contract and legal review. Mr. Sosnoff seconded. Ayes: Mr. Janeway, Mr. Jensen, Ms. Provencher, Mr. Sosnoff. Nay: Mr. O'Donnell. The motion passed.

Ms. Laurel Neu, Senior Vice President and Mr. Harland Abraham, Vice President of The Northern Trust Company (NT) presented an overview of their organization and the services they provide to the System. They referred to "An Update on Northern Trust – prepared for New Hampshire Retirement System" presentation.

In response to Committee member questions, Mr. Abraham explained the various services regarding risk metrics provided by NT. He stated that the communication between NT and NHRS staff has improved over the years and thanked staff for feedback regarding the relationship. Ms. Neu outlined the security measures that NT has taken to avoid being hacked. She commented on the information technology budget and how those monies are expended.

Responding to Committee member questions, Ms. Neu stated that NT custody assets under management have grown by 14% over the last year.

Mr. Jeffery Netols, Founder, President and Portfolio Manager of Netols Asset Management presented an overview of the firm and a review of the Small Cap Value Domestic Equity portfolio that the firm manages on behalf of the System. He referred to "The New Hampshire Retirement System" presentation dated October 19, 2012.

In response to Committee member questions, Mr. Netols stated that the firm has only lost a couple of clients during the past year and that the turnover is due to client mandate changes rather than issues specific to the Netols portfolio or firm. He commented that the top ten holdings have changed drastically from a year ago, primarily due to the market value appreciation of these holdings. Mr. Netols noted that the firm monitors the market cap of each security and will not buy a company with a market cap above $2 billion but that an existing holding that exceeds this threshold does not result in an automatic sale.

Responding to Committee member questions, Mr. Netols stated the due diligence process on potential portfolio companies involves regular communication with the companies as well as a review of all company security filings. Mr. Netols concluded by mentioning that the size of his staff, which includes himself and four security analysts, is optimal. Mr. Netols confirmed that there is a succession plan in place which would likely include increased responsibilities for Mr. Groblewski, Senior Security Analyst, who has been with the firm for seven years and has twenty years of investment experience.

Mr. Averell Mortimer, Founder and Chief Executive; Mr. Henry Davis, Head of Research; and Mr. Matthew Bianco, Head of Risk Management of Arden Asset Management (Arden) presented an overview of the firm and a review of the Absolute Return Strategy fund-of-funds portfolio that the firm manages on behalf of the System. He referred to "The New Hampshire Retirement System – Investor Update" presentation dated October 2012.

Responding to questions from the Committee and NEPC, Mr. Davis noted that investment manager turnover within the portfolio is approximately

20% and that Arden has long-term relationships with many of the underlying portfolio managers. He stated that Arden has preferential terms with over 70% of the managers currently in the portfolio. Mr. Davis explained that the tail hedge allocation within the portfolio consists of managers that will generally perform well in very extreme conditions but underperform in all other market conditions. Mr. Bianco added that examples of specific tail hedging securities include put options on equities or securities that increase in value as volatility increases. Mr. Mortimer noted that the vast majority of hedge funds participate in the shorting of securities. He concluded by stating the hedge fund marketplace has changed significantly over the last several years with the market being bifurcated between the haves and have-nots as the large hedge funds are getting larger and the smaller hedge funds, defined as AUM less than $3 billion, are struggling in today's marketplace.

The Committee had a lengthy discussion regarding the Arden presentation and overall hedge fund asset class. Responding to a Committee member question, Mr. Gill noted that Arden is rated as neutral by NEPC and explained the rationale of the rating.

On a motion by Mr. O'Donnell, seconded by Mr. Jensen, the meeting adjourned at 1:21p.m.