

NOTE: These minutes were approved and executed at the February 19, 2016 Independent Investment Committee meeting.

**Independent Investment Committee Meeting
January 22, 2016**

Public Minutes

**New Hampshire Retirement System
54 Regional Drive
Concord, NH 03301**

Committee Members: Harold Janeway, *Chair*; David Jensen; Maureen Kelliher; Patrick O'Donnell; and Hersh Sosnoff.

NHRS Trustees: David McCrillis.

Staff: George Lagos, *Executive Director*; Larry Johansen, *Director of Investments*; Jack Dianis, *Director of Finance*; Greg Richard, *Senior Investment Officer*; Shari Crawford, *Junior Investment Officer*; Ashley Lloyd, *Junior Investment Officer*.

NEPC: Kevin Leonard, *Partner and Senior Consultant*; Sean Gill, *Partner*; and Tim McCusker, *Chief Investment Officer*.

Mr. Janeway called the meeting to order at 9:03 a.m.

On a motion by Ms. Kelliher, seconded by Mr. Jensen, the Committee unanimously approved the public minutes of the December 18, 2015 Investment Committee meeting, as presented.

Mr. Johansen reviewed the Work Plan and updated the Committee on several initiatives. He discussed the Agenda for the February Committee meeting, stating that trading cost analysis service provider Abel/Noser would present a review of their findings for the 2015 calendar year. Mr. Johansen also noted that the Committee would hear presentations from private equity manager Thoma Bravo and private debt managers Alcentra and Riverstone Credit. He stated that emerging markets manager Neuberger Berman will be presenting at the March Committee meeting in conjunction with the two-year contract renewal process. Mr. Johansen stated that the Committee should be prepared to make a recommendation to the Board at the March Investment Committee meeting regarding the system's assumed rate of return.

On a motion by Mr. O'Donnell, seconded by Mr. Jensen, the Committee unanimously approved the Work Plan for the fourth quarter of Fiscal Year 2016, subject to one minor revision.

Mr. Johansen reviewed investment returns through recent periods, referring to the NEPC Total Fund performance flash report for periods ending December 31, 2015. He discussed the returns of various managers and asset classes over multiple time periods. The Committee discussed recent volatile market activity and any potential effects regarding the NHRS portfolio.

Ms. Elizabeth Smith, Senior Managing Director of Public Funds; and Mr. Martin Atkin, Investment Director of Multi-Asset Solutions, of AB provided a brief introduction of themselves and their firm. They referred to the "Multi-Asset Solutions Capital Markets Outlook" presentation dated January 22, 2016. A lengthy discussion with the Committee followed.

In response to questions from the Committee, Mr. Atkin provided a detailed explanation of AB's forecasting methodology for formulating their long-term capital markets assumptions. He described trends observed in the current market environment and how the consequences of such trends will likely impact market activity going forward. He discussed the criteria that make up the "building blocks" that are used in their forecasts, noting that each building block exhibits unique behavior but that all building blocks are subject to "linkages" across markets as a result of common underlying macroeconomic forces.

Responding to questions from the Committee, Mr. Atkin clarified that AB's focus is not in predicting how various asset classes will perform, but how the building blocks of those asset classes are expected to perform given current market conditions and the anticipation of "plausible shocks." He stated that their projections are subject to 10,000 plausible evolutions from current market conditions and are expressed as ranges and probabilities rather than a single defined outcome. He explained that their results are then assessed relative to "normal", which is typically close to a long-term historical average.

In response to questions from the Committee, Mr. Atkin reviewed return outlooks over various time periods across the major asset classes as a result of AB's forecasting methodology. He then reviewed the investment return outlook for the NHRS portfolio given the System's 2016 target asset allocation mix.

Mr. Michael Hood, Managing Director of Investment Management Solutions; and Ms. Kelly Arek, Vice President of Client Relations, of J.P.

Morgan Asset Management (“J.P. Morgan”) provided a brief introduction of themselves and their firm. They referred to the “Capital Markets in the Long Run: Building Blocks for Projecting Returns” presentation. A lengthy discussion with the Committee followed.

In response to questions from the Committee, Mr. Hood provided a detailed explanation of J.P. Morgan’s forecasting methodology for formulating their long-term capital markets assumptions. He stated that significant consideration is placed upon economic assumptions and that they also incorporate various market cycles, such as recessions, into their projections. He provided a review of key economic factors such as GDP growth and inflation and how they are expected to measure this calendar year relative to historical standards. Mr. Hood also offered an explanation as to what has influenced changes in their assumptions over the one year period from 2015 to 2016.

Responding to questions from the Committee, Mr. Hood discussed U.S. Federal Reserve monetary policy, including the prolonged period of quantitative easing following the Great Financial Crisis and the resulting historically low interest rates. He explained how quantitative easing and low interest rates have impacted the labor market and GDP both in the U.S. and abroad.

In response to questions from the Committee, Mr. Hood reviewed return outlooks over various economies across the major asset classes as a result of J.P. Morgan’s forecasting methodology. He then reviewed the investment return outlook for the NHRS portfolio given the System’s 2016 target asset allocation mix. He commented upon the expected influences of inflation, foreign currency exchange levels, and GDP growth rates and how these factors could have a potential impact on the major asset classes to which the System is exposed.

Mr. Tom Smith, Client Relationship Manager; and Mr. Matt Lehmann, Asset Allocation Specialist, of GMO provided a brief introduction of themselves and their firm. They referred to the “New Hampshire Retirement System” presentation dated January 22, 2016. A lengthy discussion with the Committee followed.

In response to questions from the Committee, Mr. Lehmann provided a detailed review of GMO’s conservative investment philosophy and asset allocation strategy in which significant emphasis is placed on avoiding a “permanent impairment of capital.” He stated that this is maintained by focusing on long-term time horizons, fair valuation levels, and the avoidance of purchasing expensive assets as GMO believes that these assets will eventually correct and can potentially pose significant losses as a result of said correction.

Responding to questions from the Committee, Mr. Lehmann and Mr. Smith reviewed GMO's expectations as to how various asset classes will perform over various time periods. They discussed the potential impacts of various factors such as corporate leverage levels, high stock valuations, and global Central Bank activity. Applying their forecasting methodology, Mr. Lehmann and Mr. Smith reviewed the investment return outlook for the NHRS portfolio given the System's 2016 target asset allocation mix.

Mr. Tim McCusker, Chief Investment Officer, of NEPC provided an overview of NEPC's capital markets assumptions. He referred to the "NEPC 2016 Outlook: Assumptions and Actions for Clients" presentation dated January 2016. A lengthy discussion with the Committee followed.

Responding to questions from the Committee, Mr. McCusker reviewed both similarities and differences between each manager's assumptions and also in comparison with NEPC's assumptions. He noted investment outlook return forecasts relative to historical standards. Mr. McCusker provided NEPC's general views on how various markets are expected to perform given today's market conditions.

In response to questions from the Committee, Mr. McCusker provided his insights on the volatile commodities market, including current oil price volatility. Applying their forecasting methodology, Mr. McCusker reviewed the investment return outlook for the NHRS portfolio given the System's 2016 target asset allocation mix. He reviewed expected returns across various asset classes for 5-7 year and for 30-year time periods and noted how these expected returns have changed from 2015 to 2016. He concluded by commenting upon the relationship between risk and return in today's markets.

The Committee discussed the capital markets assumptions presentations by AB, J.P. Morgan, GMO, and NEPC.

On a motion by Mr. Sosnoff, seconded by Ms. Kelliher, the meeting adjourned at 12:50 p.m.