

NOTE: These minutes were approved and executed at the February 24, 2017 Independent Investment Committee meeting.

**Independent Investment Committee Meeting
January 20, 2017**

Public Minutes

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

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

NHRS Trustees: Dr. Richard Gustafson; David McCrillis; and Germano Martins.

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*; and 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 9:00 a.m.

On a motion by Mr. Jensen, seconded by Ms. Kelliher, the Committee unanimously approved the public minutes of the December 16, 2016 Investment Committee meeting, as presented.

Mr. Johansen advised the Committee of an organizational change at U.S. large cap equity manager Institutional Capital ("ICAP") announced earlier in January, following which a discussion was held regarding such change.

On a motion by Mr. O'Donnell, seconded by Mr. Jensen, the Committee unanimously agreed to terminate the Investment Management Agreement with ICAP and transfer the assets to the S&P 500 index account managed by BlackRock.

Mr. Johansen reviewed investment returns through recent periods, referring to the NEPC Marketable Investments performance flash report for periods ending December 31, 2016. He discussed the returns of various managers and asset classes over multiple time periods.

Mr. Johansen updated the Committee on several initiatives, including the addition of Pavilion Global Markets Ltd. (“Pavilion”) to the NHRS transition manager pool, stating that successful contract and legal review had been recently completed. He also updated the Committee on the transition of the assets from the GMO Foreign Small Companies Fund to Segall, Bryant and Hamill’s International Small Cap Collective Investment Trust, noting that the contract is in the final stages of legal review and that the transfer of assets would likely occur within the next couple of weeks.

Mr. Johansen reviewed the Work Plan, noting the fourth quarter of Fiscal Year 2017 had been added for the Committee’s consideration and approval, adding that the Work Plan remains flexible and subject to change as the Committee deems appropriate. On a motion by Mr. Jensen, seconded by Mr. O’Donnell, the Committee unanimously approved the Work Plan for the fourth quarter of Fiscal Year 2017, as presented.

Mr. Mikael Karlsson, Partner and Co-Head of Energy; and Ms. Patricia Grad, Director, Investor Development Group; of Actis Partners (“Actis”) provided a brief introduction of themselves and an overview of their firm and its energy fund, Actis Energy 4 (“Fund 4”). They referred to the “Actis Energy 4” presentation dated January 20, 2017. A lengthy discussion with the Committee followed.

Responding to questions from the Committee, Mr. Karlsson provided an overview of the energy markets and various platforms including solar, wind, renewable energy, and power generation as they relate to their target markets in the developing geographic areas of Latin America, Africa, and Asia. He provided a brief review of the firm’s energy business relative to the firm’s presence in the private equity and real estate space, noting the differences in its investment strategy within energy, highlighting the investment focus on power generation equity investments and investments in high-growth distribution businesses.

In response to questions from the Committee, Mr. Karlsson offered a detailed discussion on the risk mitigation measures employed, some of which include the exclusion of early-stage companies from the portfolio, the absence of any construction risk, and utilizing credit enhancement platforms from state governments, including a type of equity insurance offered by an agency of the World Bank known as MIGA, or Multilateral Investment Guarantee Agency. Mr. Karlsson addressed the Committee’s inquiries regarding the generation of investment returns, limitations on regional exposures, and Actis’s competitive advantage. Ms. Grad concluded the discussion by highlighting the performance of Actis’s prior funds and reviewed the investment pipeline for Fund 4. She also explained Fund 4’s terms related to fees and carry.

The Committee discussed the presentation made by Actis. On a motion by Mr. Jensen, seconded by Mr. O'Donnell, the Committee unanimously agreed to commit \$50 million to Actis Energy 4, subject to contract and legal review. Mr. Johansen confirmed that NHRS is in discussions regarding a seat on the Advisory Board.

Mr. Joseph Carson, Senior Vice President and Director of Global Economic Research; and Ms. Elizabeth Smith, Senior Managing Director of Public Funds; of AB presented a brief introduction of themselves and their firm. They referred to the "Global Economic Outlook" presentation dated January 2017. A lengthy discussion with the Committee followed.

In response to questions from the Committee, Mr. Carson provided his current views on the state and direction of the U.S. economy under a Trump administration, highlighting the importance of the President-Elect's spending plan and tax plan. He offered a discussion comparing the fiscal plans of prior incoming Presidents Lyndon Johnson, Ronald Reagan, and George W. Bush, particularly their plans relative to defense spending and the forecasted impact on the domestic economy and the state of the economy in the business cycle at the beginning of each of their respective terms.

Responding to the Committee's inquiries, Mr. Carson discussed his expectations regarding U.S. Federal Reserve ("the Fed") monetary policies, the rate of inflation, and growth rates within the U.S. under Trump. He went on to lead a discussion surrounding how these changes in the U.S. were likely to affect the monetary policies of other central banks such as the ECB and the BOJ and global rates of growth and inflation. Mr. Carson concluded his presentation by addressing a question from the Committee regarding the current state of the job market in the U.S., the deceiving rate of unemployment, and the mismatch between the skill sets of the country's workforce and the types of jobs available.

Mr. Mark Flinn, Managing Director of Relationship Management; and Ms. Megan Greene, Managing Director and Chief Economist; of Manulife Asset Management ("Manulife") presented a brief introduction of themselves and their firm. They referred to the "How to Navigate a Global Glut" presentation dated January 20, 2017. A lengthy discussion with the Committee followed.

Ms. Greene began the conversation discussing the global oversupply of debt following the Great Financial Crisis and the role of the world's central banks in both creating and alleviating the glut. She went on to explain her views on the harmful effects of negative interest rates which

both flatten the yield curve and shift its position further down on the chart.

In response to questions from the Committee, Ms. Greene reviewed her positions relative to several key U.S. economic measures, including inflation, growth, economic policy, U.S. dollar strength, and Trump's tax and trade plans, noting that the role of uncertainty is at an all-time high, deeming these measures nearly impossible to model, making it that much more difficult to forecast. Following her discussion of the state of the U.S. economy, Ms. Greene responded to questions from the Committee regarding the positions of other major global economies including those of Japan, China, and Europe, discussing topics of currency, expectations for government bond yields, and the role of politics as each pertain to these regions.

Mr. Erik Knutzen, Co-Head of Quantitative and Multi-Asset Class investment team and Multi-Asset Class CIO; and Ms. Carter Reynolds, Managing Director; of Neuberger Berman presented a brief introduction of themselves and their firm. They referred to the "Capital Market Outlook and Investment Opportunities" presentation dated January 20, 2017. A lengthy discussion with the Committee followed.

In response to questions from the Committee, Mr. Knutzen provided Neuberger Berman's economic outlook, focusing on the firm's non-conventional views of the macroeconomic environment. He discussed the trend of changing economic regimes, noting the exhaustion of central banks and their non-traditional policy and the shifting rise of economic nationalism. Mr. Knutzen discussed the extending business cycle, noting the ways in which it differs from prior business cycles and offered his views on the impact of new policy on the U.S. economy, predicting higher interest rates, debt, inflation, and volatility over the longer term. He provided a summary of the anticipated policies under President Trump, noting that implementation of these policies is likely to boost U.S. corporate earnings in the coming years.

Responding to questions from the Committee, Mr. Knutzen provided his view on the rise of economic nationalism and potential drivers of growth, discussing their forecasted impacts on job growth. He indicated that reduced regulation would likely have a favorable impact on U.S. equities over the long-term, noting that increased investor confidence could lead to an increase in U.S. equity valuation. Mr. Knutzen discussed asset classes likely to benefit from the expected reflationary environment, noting rising interest rates and rising U.S. dollar as risks. He provided Neuberger Berman's twelve month asset allocation outlook, commented on asset classes with revised expectations, and discussed the reasoning for the change in outlook as it relates to the forecasted economic

environment. He closed with an overview on the risks to the global economy, highlighting China as a notable short-term tail risk.

Mr. Tim McCusker, Chief Investment Officer of NEPC, provided an overview of NEPC's capital markets assumptions. He referred to the "Themes, Actions, and Opportunities" presentation dated December 15, 2016. A lengthy discussion with the Committee followed.

Responding to questions from the Committee, Mr. McCusker reviewed the similarities and differences between each presenter's views, noting the importance of recognizing the various views of each presenter and how the markets are responding to these consensus views as reflected in current asset prices. Mr. McCusker reviewed the key economic themes which NEPC believes will have significant influence over investors' investment decisions in 2017, including an extended U.S. economic cycle, Fed policy and expected gradualism in the raising of the fed funds rate, the economic transition in China, and the effects of globalization. He also reviewed the markets and strategies in which NEPC believes hold the most attractive opportunities. Concluding his presentation, expected return forecasts for the medium term of 5-7 years and the longer-term of 30 years were briefly reviewed, as well as the year-over-year changes in each of these forecasts.

On a motion by Ms. Kelliher, seconded by Mr. Jensen, the meeting adjourned at 1:04 p.m.