NORTH CAROLINA DEPARTMENT OF STATE TREASURER INVESTMENT ADVISORY COMMITTEE

MEETING MINUTES FOR NOVEMBER 16, 2017

Time and Location: The Investment Advisory Committee ("IAC" or the "Committee") met on Thursday, November 16, 2017, in the Dogwood Conference Room of the Longleaf Building, 3200 Atlantic Avenue, Raleigh, North Carolina.

Members Present: The following members were present: State Treasurer Dale R. Folwell (Chair), Steve Jones, David Hartzell, John Aneralla, Mike Mebane, Greg Patterson and Lentz Brewer via telephone.

Members Absent: None.

Staff: The following staff members were present: Renee Bezaire, Brian Bolcar, Mary Laurie Cece, Angela Cooper, Tarik Dalton, Craig Demko, Ronald Funderburk, Brett Hall, Sam Hayes, Casey High, Sean Incremona, Taylor Jackson, Gail Kadash, Kathy Kornak, Matthew Krimm, Fran Lawrence, Troy March, Christopher McCracken, Deana Moore-Solomon, Christopher Morris, Neal Motaparthy, Chris Farr, Tinh Phan, Ty Powers, Norman Schiszler, Jeff Smith, Rhonda Smith, Tessa Tanis, Greg Taylor, Steve Toole, Chris Ward, Frank Lester, Loren de Mey, and Meryl Murtagh via telephone.

Others in Attendance: Lee Cohen (Wellington Capital Management); Jared Knote, Ben Utt, Casey Rogers, Alfredo Roscles, Dawn Lim and Hazel Bradford (P&I) via telephone.

AGENDA ITEM - OPENING REMARKS

The meeting was called to order at approximately 9:00 a.m., the Chair began the meeting by leading the Pledge of Allegiance.

The Chair asked the Members present to declare any conflicts of interest and, there being none declared, the meeting commenced.

** ITEM NOT ON THE AGENDA - Discussion regarding CIO replacement **

The Chair provided a brief history of the Chief Investment Officer position. He noted that the concept of the Chief Investment Officer Position came up this century and in the past 16 years, there have been 8 CIO's, including 2 interim CIO's during that period. Mr. Folwell noted that he is pleased with the performance of the 2 current interim CIO's. He stated that a discussion around the CIO search will be addressed further at a later time.

AGENDA ITEM – APPROVAL OF MINUTES

The Chair then asked for approval of the minutes of the quarterly meeting held August 17, 2017. Mr. Jones stated the minutes reflected he was in attendance but he was not. Upon making the

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correction Mr. Hartzell moved to approve the minutes, and the committee approved. A quorum of Members was present, and the meeting, having been duly convened, was ready to proceed with business.

AGENDA ITEM -PERFORMANCE UPDATE

The Chair recognized Jeff Smith and Chris Morris, Interim Chief Investment Officers. Mr. Smith provided a brief update on the cost-efficiencies initiative underway in the Investment Management Division ("IMD"). He stated the goal of the initiative is to obtain \$100 million of incremental cost-savings for the North Carolina Retirement Systems ("NCRS") investment program over the next 4 years. He noted that the initiative is well ahead of that pace with current approximate annual savings of \$67.8 million.

Mr. Smith then provided an update on the US economic environment for the past quarter. He stated that the markets are strong. Low unemployment led to the 8th straight quarterly increase in equity markets. On the fixed income side, Treasury rates increased slightly during the quarter. He noted that while there have been some volatility in equity markets, there has been a lack of volatility on the treasury side. Credit spreads continue to be tighter for the 8th straight quarter. Looking at 2018, the expectation is there will be two rate increases with a 50% chance of a third increase.

Mr. Morris presented an update on current assets under management as of September 30, 2017. He noted that the Department has north of \$126 billion in assets under management due to strong markets, noting this is the highest the market value has ever been. The Retirement Systems also increased market value with total assets just north of \$96 billion. He then walked through asset allocation for NCRS with the current asset allocation of 53% in growth assets, 33% in rates and liquidity, 11.5% in inflation sensitive and diversifiers and just under 2% in multistrategy. NCRS is currently underweight in growth assets by just over 4% with the underweight to public equity shrinking since the last IAC, currently 2.65% compared to just over 4% underweight on June 30th. The decrease was mainly due to strong equity markets. NCRS continues to maintain overweight to fixed income, inflation sensitive very close to target as part of the strategic asset allocation.

Mr. Morris then provided an update on the total net portfolio return versus the benchmarks. On a 1 year basis ending September 30, the portfolio was up 10%. Longer term returns 5 and 15 year does exceed the actuarial assumed rate of return of 7.2%. The 3, 10 and 20 year did not exceed 7.2%; 20 year is 6.5% vs.7.2%. On a relative basis, returns exceeded our Implementation Benchmark which compares us to our strategic asset allocation, and have exceeded the benchmark in every time period. The Long-Term Policy Benchmark, a low cost passive approach to asset allocation, has exceeded the benchmark in all time periods with exception of the 3 month and 15 year returns.

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Mr. Morris walked the committee through the return attribution charts on slides 12 - 14 of the slide deck. The portfolio return of 10.1% ending September and policy return of 9.3% for excess or value added return of 0.88%. The selection effect has added 1.21% while allocation effect detracted 0.33%. For the allocation effect, the underweight to public equity at 10 basis points and overweight to cash at 16 basis points were the largest detractors. On selection effect side, there were very strong returns from the individual asset classes, with public equity at 46 basis points and inflation sensitive at 37 basis points being the largest contributors.

The IAC Committee members asked questions around the overweight in cash. Mr. Morris stated that earlier in the year we exited several public equity managers. The majority of that went to cash and investment grade fixed income. The cash weighting has reduced due to payments of benefits month over month and as public markets continue to rise. In terms of liquidity management, there is not an absolute number which is why we put a strategic target at the total plan level, to make sure we have enough liquidity and it is continuously managed. Mr. Morris stated the benefit payments are roughly \$200-250 million per month, and \$2.7 billion was paid out last year and we expect to be paying around the same this year. The Treasurer stated this is a net number that is offset by contributions.

Mr. Morris explained the universe comparison chart on page 15 of his presentation, noting this is typical of what we have seen in the past; during a strong economic environment with strong bull markets, we typically lag many of our peers in returns, due to the fact that we historically have a higher allocation to investment grade fixed income, which continues at 30-33% while peers typically between 15-20%. Given our funded status as a plan we are comfortable with the overweight in fixed income as compared to our peers. On a risk basis, the portfolio is in, or close to, the bottom quartile in every time period, which is the lowest risk versus our peers.

Mr. Hartzell asked if it was accurate to state that if the portfolio doesn't hit the actuarial return of 7.2% then funding level will decrease. Mr. Morris confirmed that is accurate. Mr. Hartzell asked if the portfolio has the appropriate profile to hit the actuarial target. Mr. Smith stated, we do not think our views are different than when we went over our asset liability several years ago. Mr. Morris confirmed, it comes back to how much risk are we willing to take.

Mr. Morris reviewed two new slides based on questions last meeting around cash flows and how we deal with those. The chart on slide 19 shows net benefit payments by calendar year.

The next slide gives a sense of our cash flow profile with regards to alternative investments. Note that unfunded commitments are drawn down over a period of time. The takeaway is that even though we funded 4.5 billion in contributions to these managers over the previous twelve months NCRS actually received slightly more than that back. So we are close to cash flow neutral with regards to our cash flow profile for alternatives.

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Mr. Smith reviewed asset class performance for one year, noting that all asset classes except fixed income exceeded the actuarial return on the one year basis. Mr. Smith reviewed unfunded commitments, which is currently at \$8.9 billion, down about \$750 million from the last quarter.

Questions around new commitments arose, the Chair advised we are back in the market now.

AGENDA ITEM - INVESTMENT COST-EFFECTIVENESS REVIEW

Chris Morris introduced Allan Torrance from CEM to give a report on the cost effectiveness analysis of NCRS, which reviews the NCRS portfolio vs. peers in regards to investment structure, investment strategy and fees. The data reflect end of calendar year 2016.

Mr. Torrance noted that the peer group for the study used for comparison was 14 U.S. public plans ranging from \$44 to \$170 billion in assets under management, with a median size of \$71 billion.

Mr. Torrance presented a comparison of the 5 year average investment policy mix among the plans. The comparison shows NCRS having a lower allocation to stocks, a higher allocation to fixed income, and a similar allocation to alternatives versus the peer group. He noted that NCRS policy mix (the target allocation range) has changed slightly over the past 5 years, in particular private equity as it has gone from 5.9 to 9.9%, as shown on slide 8.

Mr. Torrance reviewed net value add by asset class before moving on to investment costs. Mr. Torrance pointed out that NC provides very good cost data, and it has been a general industry movement to become more transparent. Mr. Torrance pointed out that total investment costs are 50.5 basis points. Mr. Mebane added, another way to look at it is \$444 million dollars. Mr. Torrance confirmed. Mr. Torrance noted that the total investment cost of 50.5 basis points is below the peer median of 59.0 basis points.

Mr. Torrance then reviewed the benchmark cost analysis, which takes into account the peer difference in fund size and asset mix. CEM estimated that NCRS was 7.0 basis points less expensive than the benchmark cost. NCRS was lower cost mainly due to paying less than peers for similar services, which includes paying less for external investment management costs, internal investment management costs, and oversight costs. NCRS does have a higher cost implementation style due mainly to the use of external active management and a greater use of fund of funds versus the peers.

AGENDA ITEM – PUBLIC EQUITY ASSET CLASS REVIEW

Mr. Folwell introduced the Public Equity team to discuss updates to the asset class and share the news on the internal trading platform.

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Ms. Rhonda Smith started by introducing the equity team.

Ms. Smith explained she would be describing recent initiatives and wouldn't spend too much time recapping performance since Messrs. Smith and Morris previously discussed in the performance update. Ms. Smith noted one of the things on the CEM slide, in particular the high costs identified within the US Large Cap, Emerging markets and Global active equity all have been addressed through either strategy eliminations or consolidations. She noted that we still have emerging markets exposure, but have exited out of some dedicated emerging markets and have elected to consolidate within broader developed non-us exposures with managers being given greater latitude to increase their previous caps on emerging markets allocations. That change materially reduced a lot of active costs within our overall non-US exposure. As a result of these changes, she expects 2017 numbers to be very different as compared to 2016.

Mr. Norman Schiszler gave an overview of the Public Equity portfolio and some of the changes that have taken place. Total equity assets under management for the quarter reflected a \$37.2 billion allocation for global equity. Following a significant portfolio restructure, the number of domestic mandates was reduced from 16 to 9, the non-US went from 15 to 8, our global allocation of 2 mandates was eliminated entirely, and our equity hedge remained the same at 5. Ms. Smith added global coverage has not changed, rather as a policy decision, we have taken the approach of combining our US and non-US exposures instead of utilizing dedicated global strategies

Mr. Schiszler continued with the asset allocation of the portfolio, domestic is at 43.7% down from 45.8%, our non-US exposure goes from 39.7% to 47.8%, direct global exposure goes to 0 down from 6.9% and hedged equity moves slightly up from 7.6 to 8.4%. Mr. Schiszler then reviewed that there was a shift in the portfolio from active to passive. We have taken our passive position in the portfolio, from 52.9% to 62.7% and our active has gone down from 47.1% to 37.3%.

Mr. Greg Taylor reviewed manager terminations. During the year, public equity terminated 13 strategies, 7 US, 4 non-US, 2 global and that has led to the decrease in active strategies from 31 to 16. In addition, we consolidated strategies with two of our managers where one manager had a dedicated EM (emerging markets) strategy, this was rolled into a broader non US strategy. These consolidations resulted in an approximate annual savings of \$3.5 million. In addition to those, we engaged with all managers to revisit fees. We were able to get new proposals from all managers and that resulted in a savings of approximately \$8 million per year, so all together that is just shy of \$50 million on a rolling basis for the asset class. Mr. Taylor explained that leveraging relationships between the defined benefit and the defined contribution plans also resulted in savings.

Ms. Smith said she would now describe one of the more recent projects in public equity. For the better part of two and a half years the team has worked to put an infrastructure in place to be able to manage public equities internally. The current focus is on the passive allocation. In 2007

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the Plan was given the authority to manage passive domestic public equities internally. In 2016, there were changes in the statutory language that allowed for more internal management options.

Mr. Casey High explained that the US large cap equity market segment is becoming increasingly efficient and the Public Equity team views passive management as the most prudent and cost efficient approach in this segment of the market. The Public Equity team estimated that in just a few years, the cumulative net savings generated from managing US large cap passive assets internally will be about \$2 million. A more obvious benefit of internally managing public equities is increasing control over the assets. We conducted many in person and phone conversations with other peer plans during implementation. We spoke with Texas Employees Retirement System, Ohio Public Employees Retirement System, Virginia Retirement Systems, and Georgia Employees and Teachers Retirement System and found the issues that led them to bring in passive equity internally were very similar to ours where costs savings and control of assets were the primary drivers.

The Chair asked about securities lending, Mr. High responded we will continue to do securities lending with our custodian as the agent.

Mr. Taylor explained the rationale behind the decision to manage to the Russell 1000 by managing the Russell Top 200 and Russell Midcap index portfolios separately. Managing to Russell U.S. Equity benchmarks is consistent with the benchmarks we assign to our external US managers. We are comfortable with using this methodology.

Mr. High described the training the public equity team received from Piedmont Investment Advisors. The training began in November 2015 on the different components of internal management. There are three distinct areas- front office, middle office and back office. The trades are generated and routed to the executing broker is the front office. The middle office is where the direct trading support is provided. The investment book of record or the IBOR is really the engine that is driving the middle office. Back office is everything that is trade settlement related. Post-trade compliance reports are also generated in the back office and are used to monitor any potential breaches of the portfolio guidelines.

Ms. Smith noted the Chief Financial Officer and Financial Operations Division will maintain oversight of the development of controls that will be put in place to monitor the middle and back office.

Mr. High noted that in 2016, NCRS engaged a third party consultant, Cutter Associates, to help develop our optimal future state infrastructure for internal management. Referring to an exhibit, Mr. High described how NCRS evaluated three reputable service providers, and after some negotiations just recently entered into a contract with SS&C Technologies for middle and back office services. A number of other public and corporate plans who have internal management

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programs also use them as an outsourced provider for middle and back office. They will be responsible for automated daily transaction and reconciliation reports as well as the processing of corporate actions.

The committee inquired more about the outsourcing and audit controls.

The team reviewed the separation of duties, roles and responsibilities along with compliance and controls. Ms. Mary Laurie Cece added, we have a contractual arrangement with this provider. The contract itself has a lot of the obligations that they are supposed to fulfill and consequence for breaches.

Ms. Smith added, we spent a lot of time talking to other pension plans. Because, although the setups are a little different throughout different plans the comparison gave us a sense of where those separations of duties needed to be. We have worked through that and modeled a lot off of our internal fixed income structure that has worked well.

Ms. Smith then reviewed the legal and compliance oversight.

Ms. Cece stated the legislation stated that the IAC is to be consulted in developing guidelines for internal trading and the IAC is to be periodically consulted on an ongoing basis. Ms. Smith explained the guidelines line up with all of our other externally managed portfolios. They are subject to our divestment policies, our internal proxy voting policy, and they will be doing securities lending just as all of our other outside managers do as well. The specifics are in the guidelines.

Questions related to reconstitution were asked. Mr. High answered, the Russell reconstitution occurs in June, they also do quarterly mini reconstitutions or more of smaller rebalances. This will be a full replication strategy.

Ms. Cece noted that staff spoke to 6 or 7 of our peer institutions who have internal passive trading about their compliance programs and got comfort that we are approaching compliance similar to our peers. We have entered into a contract with Russell for the index data. We also finalized account opening documentation with some of our brokers, others do not require any kind of contracts. We also looked at issues as to whether we needed insurance for our traders, but determined it was not necessary as most of our peers did not do that. We also worked on the delineation of duties between legal and compliance. We are putting together a compliance manual, we had to update our personal trading policy, code of ethics, we are documenting trade errors policies and we already established the broker due diligence that Casey and Rhonda went through with each of the brokers that we will be using. We had to update our records retention policy, evaluation procedures and we really are looking closely at positions, roles and responsibilities.

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Ms. Smith noted that the plan is to transition all of the Russell 200 allocation from external to internal management, about \$3.5 billion, in multiple tranches. Initially \$50 million came directly from the Piedmont allocation in securities transferred in kind, and the other \$50 million that went to fund the midcap strategy actually came from pension cash in November in order to make sure that everything following implementation was working and we were getting good flow through between the brokers, custodians and the outsourced middle and back office provider. Now that everything is starting to settle in we will start pulling in additional dollars over the next quarter. Then in 2018-2019 we will transition the remainder of our passive allocation which is the bulk of our assets that reside in our Russell 1000 strategy and we will split that up between the Russell 200 and midcap portfolios accordingly. That's a big number, and we will do that in tranches as well, it's going to take a lot to absorb that total amount, as the total amount will be north of \$12 billion in total domestic passive assets. In 2019 and beyond we will research how to expand internal capabilities and what will it take to do so.

Business Continuity was discussed briefly and Mr. Smith provided examples on how Fixed Income performs their COOP plan.

AGENDA ITEM – REAL ESTATE ASSET CLASS REVIEW

The Chair introduced the Real Estate team to discuss updates to the asset class.

Ms. Tessa Tanis introduced the team, advising that the three portfolio managers have an average of 16 years of industry experience, and that their analyst, Sean Incremona, has an economics background and is very helpful with market research and analytics. Together the team is overseeing 101 funds totaling \$8.2 billion today, with about 38 managers. The team is working to reduce the number of managers.

Ms. Tanis provided a brief update on the real estate market. We definitely feel we are in the mature part of the cycle, but we still feel there is still room to run because the fundamentals are still solid. Supply and demand are in check for most sectors and modest leverage is being used. Property values are holding strong in prime locations for most sectors. In general we are seeing a strong demand for in-fill industrial based on the e-commerce business. We are seeing a strong demand for multi-family as well. Despite the bankruptcies and store closings, some areas of the retail sector are doing well, such as destination or experiential retail.

Mr. Mebane inquired, what parts of retail are not doing well? Ms. Tanis gave some examples of big box stores, and some grocery stores. It is really just a fundamental shift in how people are shopping, what they are looking for, and everyone is looking for value. At this point in the cycle, we expect most of our growth to come from income growth rather than market appreciation. Overall, investors are moving cautiously, given the geopolitical uncertainty, given potential tax changes and rising interest rates down the road. Right now manager selection is more important than ever.

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Moving on to the portfolio, Ms. Tanis explained there are two components in the real estate portfolio, a core component and a non-core component. Our core component is in the inflation sensitive bucket for the fund. These are our stabilized assets which provide strong current income. They are held for a long duration. There is low leverage and low risk in the core portfolio. The term Non-core portfolio, is used to describe assets that are not core yet. That is our buy it, fix it, sell it mantra. For this portfolio we are going to buy an asset that may have a problem... maybe it's a vacant building, a building in need of lease up, an asset that we need to renovate because it is old and tired, or maybe it is a ground up development. These would all fall in our non-core bucket, which are part of our growth strategy for the total fund. We also have a hybrid build to core strategy, where an investment starts as a development on the non-core side and upon stabilization and lease up it then moves into our core bucket.

Questions around the asset class mapping were posed.

Ms. Tanis then spoke to the allocation for the portfolio. Today we sit at about 8.5% of the total pension fund down from 9.3% at the end of last year. We are sitting at about 60% core 40% noncore today which has completely flip flopped where we were in 2014 at 60% non-core. That was a strategic decision to intentionally shift more to core and we accomplished that by the end of last year through the build to core program that I mentioned. Mr. Troy March will walk us through our cash flow slide in order to demonstrate how we monitor our cash flows and unfunded liabilities.

Mr. March noted the next two slides show the annual amount of contributions, distributions, and the amount of commitments that we have made in each year. The last four years we have had record distributions. Year to date for 2017 we have received net distributions of about \$800 million, which we expect to stay the same through the end of the year.

Mr. March noted that tracking and monitoring these distributions and contributions is important. A large part of what we do as portfolio managers, is manage the investment pacing forecast. We wanted to show the various vintage years and how those vintage year commitments are called. So if you go back to slide 7, in 2007 you see there is \$1.4 billion in commitments. In 2007, you can see how that \$1.4 was drawn down over time. We spend a great deal of time talking with our managers and building a bottom up model that forecasts contributions and distributions for each individual fund and then rolls them up to the portfolio level. Our pacing model, developed internally by Mr. Tinh Phan, is sophisticated and has proven to be accurate in the aggregate. Commitments made in a given year will be paid out to our managers over a period of many years. Particularly in the non-core space where investments are either ground up developments or the buy it, fix it, sell it situations. The manager may commit all of the capital in 2 to 3 years, but will draw it over 5-6 years, if not longer. If you look at the 2007 vintage commitments, they slowed the pace of commitments through the downturn, as you would expect. In 2008 vintage commitments were on hold for a couple of years before they started really drawing the capital

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in 2011 and 2012. Reserves are another large components of this. Common practice for any particular fund is to keep a certain percentage of the total commitment as reserves in case things change within an individual investment or the business plan changes and requires incremental capital. 10% is typical for each individual fund.

We typically model 8% of commitment to never be called and revise that as the vintage year matures. Of the \$2.7 billion in unfunded commitments at 10/31/17, we project \$1.8 billion of that will be called through year end 2020, and approximately \$900 million of that will be held as reserves and is unlikely to ever be called. That \$900 million represents approximately 8% of the total net asset value plus the unfunded commitments at this point.

Discussion on how fee payments are made on unfunded commitments followed. Mr. March answered that generally in a fund when you make a commitment, it is bifurcated into two phases: first during the investment period where you pay a fee and on the total amount that we committed and second, once they invested the capital or they get past the investment period, then you only pay a fee on the actual investment capital. Sometimes you only pay a fee on the investment capital and not on the total commitment, this can vary by fund. For open ended funds you only pay on the actual invested capital as well, but for closed end funds you pay on the total commitment during the investment period.

Mr. Phan explained approximately % of private market value is managed by high conviction managers.

Mr. Hartzell asked, what is that number now, as far as high conviction managers? Mr. Phan answered, that we have about 35 and we are reducing that down to 12.

Mr. Phan continued that the management fee as a percent has decreased about 107 bps since 2009 as shown by the red line. We continue to push on fees by leveraging relationships and size.

A discussion of fund type and separate accounts arose. Ms. Tanis stated, we have 9 separate accounts, the majority right now is still commingled funds, and we have been working to invest in new deals as separate accounts where possible.

Mr. Incremona stated that the non-core performance continues to be strong, but we have seen some moderation from recent years, which is consistent with general theme throughout real estate where the deployment pace is not as robust, but still steady. Our managers continue to execute their business plans and return capital. They sent back approximately \$800 million in net distributions year to date.

On the core side, last year at this committee we projected that we would be beating our benchmark in 12-24 months. We are very pleased to share at this point that we have exceeded the benchmark for the one-year mark. A lot of that has to do with the build out of our core

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portfolio over the last several years, which is producing the results that we have expected. As we move through the J curve we are seeing results of that.

AGENDA ITEMS - IAC MEMBER Q&A

IAC Members were provided with the opportunity to pose questions to the Treasurer and IMD staff. No questions were posed.

AGENDA ITEM – PUBLIC COMMENT

No public comments were made.

ADJOURNMENT

Treasurer Folwell made closing remarks thanking the staff and in remembrance of the fallen officers and first responders recently lost and that he takes viewing all decisions through the eyes of the state workers very seriously. He thanked everyone for their attendance and input. Mr. Brewer moved to close the meeting, seconded by Mr. Mebane. The meeting was adjourned at approximately 12 pm, without objection.

DALE R. FOLWELL, CA

NORTH CAROLINA STATE TREASURER AND CHAIR