

## **E. Discretionary Fiduciary Investment Management Services**

### **1. Describe your firm's background and experience serving as both a discretionary and non-discretionary investment advisor in evaluating, selecting and monitoring investments on behalf of pension fund investors – and specifically ERISA investors.**

After listening to our clients' increasing requests for additional help in managing their investment programs, NEPC launched our Discretionary Services product at the beginning of 2011. We believe the migration to discretionary services by plan sponsors will continue and we made significant investments in technology and personnel to build an industry-leading capability prior to our launch. Offering discretionary services in response to meet our clients' needs is just another example of the industry-leading services we provide, as recognized recently when *aiCIO* awarded NEPC the highest honors in 2011 for Industry Innovation in their Consultant category.

*Our clients demand more, and so do we.* Each client is unique and, as a result, has unique investment goals. We listen closely and customize our solutions to pursue our clients' goals with intelligence and rigor. In fact, customization is an aspect of collaboration, as we see it, and it's a hallmark of who we are. Our Discretionary Service model is designed to be customized to your goals and objectives, using best-in-class products and services. We differ significantly from the one-size fits all funds-of-funds approaches used by many of our competitors, and our client performance record is a proof statement demonstrating the validity of this approach. Our approach also does not require an "all-or-nothing" decision on behalf of the trustees, meaning that the trustees can elect to turn over the entire plan to NEPC, or only turn over certain aspects of the decision process to NEPC such as asset allocation, investment manager selection or implementation.

We offer clients an independent, proven partner in proactive service, asset allocation, manager selection, and outsourced administration. Our service leverages NEPC's best-in-class in-house services partnered with the flexibility to select best-in-class partners. In summary, we offer:

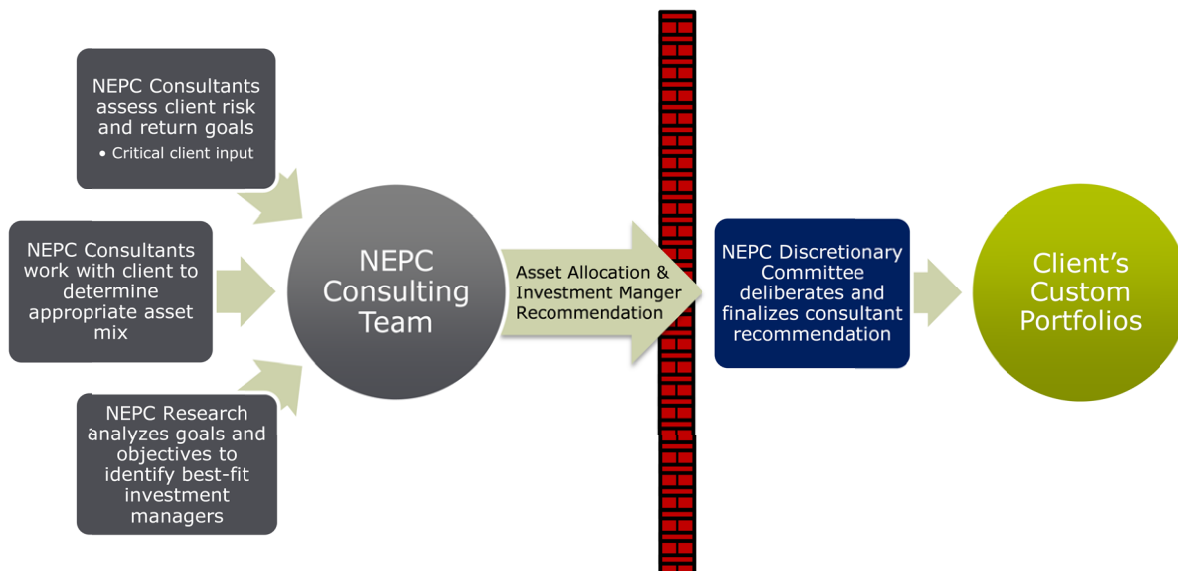
- An independent discretionary fiduciary
- Best-in-class asset allocation and risk budgeting modeling
- Best-in-class product selection, including investment manager, custody and transition management
- Seamless back-office asset administration platform
- An unbiased firm with no proprietary investment products to cloud the decision process
- A pricing schedule with no conflicts
- The scale to produce fee breaks from investment managers
- Access to limited capacity or selective access products
- A proactive partner with a commitment to superior client service

We believe using a best-in-class approach to manage a client's assets will produce the most optimal outcome for our clients. Our Discretionary Committee has the decision-making authority within NEPC and is made up of some of the most senior and experienced investment professionals within NEPC (and the industry). The Discretionary



Committee receives recommendations on asset allocation and investment manager selection from your NEPC investment consultant to determine the best mix of assets for your plan. By doing so, we leverage over 26 years of experience and best practices as investment consultants to deliver a program that can exceed your goals.

Our Discretionary platform is designed to leverage our heritage as investment consultants, using a similar recommendation and approval process to build a portfolio. Our process leverages our existing investment consultants as your primary interface, working with you to determine goals and risk tolerances. This consultative process can include significant dialogue with you on the plan's asset allocation relative to your goals, depending on your desired level of involvement. Our initial recommendation starts with a "base-case" portfolio that is applicable to an average plan, but is customized to the client's specific goals and objectives. Once goals and objectives are determined, our investment consultants then "recommend" a solution (may include changes in asset allocation and/or investment managers as appropriate) to NEPC's Discretionary Committee for deliberation and approval. As illustrated below, NEPC's investment consultants act as your advocate in the decision process, ensuring your goals and objectives are adhered to in the decision process. You will note that NEPC's Discretionary Committee steps in where client trustees would typically approve NEPC's recommendations. Once our Discretionary Committee analyzes and approves the consultant's recommendations, NEPC implements the decisions.



Once the appropriate investments are determined, we aggressively negotiate fees and potentially use transition managers to move the assets consistent with our best-in-class approach. Third parties are used for investment management, custody and transition management.

All third party relationships including investment managers, transition managers, custodians and legal services are determined based on NEPC's internal due diligence with input from the client. Third party relationships are determined based on merit, cost and best fit, and all are arms-length transactions. NEPC will contract with these firms on behalf of our clients as appropriate, although contracting responsibilities may remain

with the client if that is desired. We believe this flexible, unbiased approach is the best solution available for discretionary clients.

NEPC consultants work closely with our Research Team to evaluate each client's roster of investment managers initially and ongoing. Your consultant will develop recommendations for our Discretionary Committee based on all of the known facts about your investment program and the investment managers used to implement the asset allocation decisions. The following initially describes the process we follow to hire and fire investment managers, and then goes on to describe the tools NEPC uses to monitor the client's investment program.

### **Manager Hiring:**

NEPC's Research Team is extensively involved in the development of our client portfolios. Our consultants work closely with our Research Team to develop a customized portfolio based on the client's specific goals, objectives and restrictions. Once an asset allocation decision is determined, your consultant works closely with our Research Team to determine the best fit investment managers and, using our Active Portfolio Risk Budgeting tool, the team determines the appropriate mix between the selected investment managers to arrive at the optimal portfolio. The best fit investment managers are reviewed by our Discretionary Committee for their approval. This recommendation includes the rationale for each custom portfolio and the investment managers selected.

### **Manager Termination:**

If NEPC issues a termination recommendation for an investment manager currently in the portfolio, our consultants work with our Research Team to recommend an action to our Discretionary Committee on the successor investment manager and revised asset mix. The Discretionary Committee works with the consultant and Research to develop a plan for termination and transition for all clients impacted by the investment manager change.

We have developed detailed processes incorporating our internal systems to safeguard transactions. The following summarizes our processes:

- Clear, rule-based procedures that can be applied uniformly through manual or technology-based processes;
- All asset movements require review by at least two NEPC Partners and information verification before assets are transferred;
- Adequate time is permitted for evaluation, client notification (if needed) and asset transfer, and;
- NEPC's Discretionary Team always makes the final decisions regarding asset movements and investment managers.

When NEPC becomes aware of a potential problem at an investment management firm (e.g., key personnel change), we notify all interested parties through our "48 hour" letter. We will visit the firm; conduct a meeting with the manager at our offices or via conference call to determine how the potential problem is being addressed. We will report the results of our investigations to our Discretionary Committee and discuss options. Information that is important, but not identified as a potential problem by our research staff requiring a "48 hour" letter, is communicated to the Discretionary



Committee by the consulting team (e.g., loss of non-critical personnel, anticipated fund closure, new product offerings, etc.). If it is determined that a change is necessary, consultants follow to steps described above to implement changes on a timely basis.

**2. Describe how your firm would approach planning and implementing a discretionary investment program for the Board. How would your firm develop an appropriate asset allocation for the Fund? What unique client factors would your firm consider in establishing the Fund's asset allocation? What are the steps your firm would take to execute this plan? Explain your philosophy and methodologies for developing asset allocation for a Multi-Employer Defined Benefit Plan.**

NEPC uses the following processes and tools to build out client portfolios under our Discretionary Services platform. As noted earlier, our Discretionary Committee makes decisions on client portfolio based on the goals, objectives and investment guidelines agreed upon during our periodic reviews with the client. The Discretionary Committee acts in the place of the plan sponsor, making investment decisions for the program based on the known facts to create the best fit investment program for each respective client. Our consultants act as the interface with the client to understand how the client's goals and objectives may evolve over time, to ensure that evolving goals and objectives are incorporated into recommendations on asset allocation and investment managers to the Discretionary Committee, and to report back to the client on actions taken by our Discretionary Committee.

| Services                                                                                 | Timing                  |
|------------------------------------------------------------------------------------------|-------------------------|
| <b>At Onset of the Relationship</b>                                                      |                         |
| Negotiation of contracts and service agreements with Deloitte                            | Immediate               |
| Plan design – investment structure review at JP Morgan                                   | In first month          |
| Decide on goals and objectives for plan                                                  | In first month          |
| Investment Policy Statement review                                                       | In first month          |
| Establishing plan data and information flow on NEPC systems                              | In first month          |
| Determine cash needs for benefits                                                        | In first month          |
| Review existing investment manager line-up and determine changes necessary               | In first month          |
| Review existing asset allocation and determine new mix (A/L Study)                       | In first three months   |
| Identify and implement new investment managers; use of transition manager as appropriate | In first three months   |
| Negotiation of all contracts investment manager and custodial contracts                  | In first three months   |
| <b>Monthly</b>                                                                           |                         |
| Plan performance “flash” reports with compliance monitoring as requested                 | Quarterly               |
| <b>Quarterly</b>                                                                         |                         |
| Plan performance reports, w/written commentary of actions taken by NEPC                  | 1 <sup>st</sup> quarter |



|                                         |          |
|-----------------------------------------|----------|
| Meetings as requested                   | On-going |
| <b>As Needed</b>                        |          |
| Rebalancing as appropriate              | On-going |
| Management of cash flows as appropriate | On-going |
| Investment Committee education          | On-going |
| Open-ended service commitment           | On-going |

The process of analyzing a client's investment portfolio structure begins with a review of the Fund's investment policy statement, and an in-depth discussion of the plan sponsor's goals and objectives. A liability-driven asset allocation study is conducted to determine the optimal mix of assets forecasted to meet the target return goals. We look at the impact of liabilities on an asset mix on a real and nominal basis. We look at asset allocation from a risk budgeting perspective to make sure we understand each asset class' contribution to total plan risk. We will also look at asset mixes under different economic scenarios. The target asset allocation is reviewed on an annual basis through an asset allocation study to confirm that goals and objectives are still attainable. The asset allocation study incorporates our current forecasts for return, risk and correlation of asset classes.

### **Analytic Tools and Market Data**

Our asset allocation studies are based on an analysis of both assets and liabilities. We use multiple tools for asset allocation modeling. Our asset class assumptions and economic scenario forecasts are internally generated for forward-looking five to seven year time periods. Traditional efficient frontier modeling uses Ibbotson Encorr software licensed from Morningstar. Asset-liability modeling uses ProVal software licensed from WinTech. For this system, our mean/variance assumptions are translated to growth and yield assumptions, to accurately reflect the impact of inflation and interest rates on asset returns and liability calculations. Our asset/liability model can be customized to particular benefit formulas and actuarial assumptions. Using participant data, we project plan costs using our internally generated economic forecasts. We have internally developed our risk budgeting model, which re-characterizes asset allocation into its component risks, both on an asset-only, and an asset-liability basis. Finally, we have developed scenario analysis to assist clients with understanding what could happen to funded status and asset values under specific economic scenarios.

*We believe NEPC is unique among consulting firms in that it has professionals dedicated to the research of asset allocation.* NEPC's Asset Allocation Team directs all of the firm's efforts in performing asset allocation and asset-liability studies, and leads the development of the firm's asset class return, risk and correlation assumptions. Since asset allocation is the primary driver of success, we believe it is important to understand, analyze and challenge assumptions to create better portfolios. We do this by staffing this team with very senior members. The following is a list of team members:

- Timothy McCusker, FSA, CFA, CAIA, Partner



- John R. Minahan, Ph.D., CFA, Senior Investment Strategist<sup>1</sup>
- Lynda K. Dennen, ASA, EA, Senior Research Consultant
- Mark Cintolo, Consultant
- Mario Tate, Senior Analyst
- The Asset Allocation Team is supported by the Asset Allocation Committee, comprised of representatives from Research and Consulting and chaired by Christopher A. Levell, ASA, CFA, CAIA, Partner

## **Risk Budget Approach**

Our Asset Allocation Team has developed a risk budgeting exercise that reviews the contribution of each asset class to the portfolio's overall risk. In addition, we can incorporate liabilities into our risk assessment.

Rather than focusing simply on the single summary term of total portfolio volatility, we determine the contribution to the portfolio's volatility from each underlying asset class. This allows us to understand not just the total level of risk, but also the sources of risk. We find that portfolios with 60% or more in equity investments will have more than 90% of their overall portfolio volatility sourced from equity returns. In other words, performance of the broad equity market will determine the overall direction of the plan's return. Through this approach, we have counseled clients to strive for more balance in their portfolio's risk allocation, leading to asset allocations that are more resilient when equity markets decline.

## **Asset Allocation Decisions**

Asset allocation is a key driver of results in any pension program, and NEPC is prepared to make these decisions as part of our Discretionary Services platform. That said, we understand that clients will want to influence the decision in different ways. NEPC is prepared to work with the Trustees to accommodate whatever their desired level of input, from as little Trustee input as possible to a level where the Trustees make the final decision.

The importance of diversification to reduce equity concentration risk in investor portfolios has become very evident over the decade of the 2000's. Developing investment strategies based on "risk budgeting" frameworks has enabled our clients to protect capital somewhat better than traditional approaches in this volatile environment. We also believe non-traditional asset classes and strategies remain critical in the development of sound investment policy.

The use of risk management is increasing for plan sponsors, and NEPC has the experience and tools to assist our clients in this important area. Asset-liability studies have been the traditional tool for evaluating assets and liabilities together and such studies continue to be "best-practice."

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<sup>1</sup> A long-time employee of NEPC and current faculty member at MIT's Sloan School of Management, is engaged as an independent consultant to NEPC.

Over the past three years, we have conducted liability-driven asset allocation studies for over 100 client plans, and several hundred asset-based asset allocation studies. Our philosophy is outlined below.

We believe that the asset allocation decision is clearly the most difficult, but most important, aspect of the consulting process. A well-diversified investment program is the necessary foundation for good performance, and an essential key to the success that our clients have enjoyed over the years. Asset-based asset allocation studies are available on-demand to all of our clients.

Liability-based asset allocation studies are performed every three to five years. NEPC believes that the asset/liability analysis is useful to determine each client's risk tolerance.

Using information supplied by your actuary, we develop projections of future liabilities and obligations. The same assumptions used by your actuary are used in our modeling process. A key differentiator in NEPC's process is that we not only utilize the typical mean variance analysis, but overlay deterministic scenario analysis coupled with liquidity risk analysis to ensure we provide a robust framework for determining the asset allocation.

Forecast returns are based on NEPC's forward looking projections for the capital markets over the next five to seven years based on a building block approach by asset class. We analyze the historic trends of asset class index returns since inception of the asset class over various market cycles and economic conditions. Current market conditions include the current yield on bonds and short-term instruments. Correlations and standard deviations are based primarily on historic return patterns.

There is a significant move within the industry, beginning in the corporate sector, to provide greater transparency regarding the funded status of pension plans. NEPC has been in the forefront of this movement and generates liability-driven funding solutions for a growing number of its clients. We believe this trend will accelerate as budget pressures grow in coming years and the importance of funding pension liabilities becomes better-appreciated.

Our work in this regard has been well underway for some time and, indeed, is highlighted in many of our client communications.

### **Dynamic Asset Allocation**

We view asset allocation as a long term strategic target, with initial steps put in place to reach the final target allocation. That being said, we promote small tactical allocations (totaling 10%-15% of the overall program) to various asset classes when we see an opportunity in the marketplace. Our Discretionary Committee is empowered to make these decisions on behalf of our discretionary clients, consistent with the goals and objectives and investment policy guidelines agreed upon by NEPC and the client. One example of this is our promotion of Credit Opportunities when credit spreads began to widen in 2008-9. Other examples are Debtor in Possession (DIP) and the Public-Private Investment Program (PPIP) opportunity which was available through Federal programs in 2009. In both instances, NEPC researched managers and had a vetted investment ready for clients early in the life of the opportunity.



## Forward-Looking Perspectives (Abilities Beyond Mean-Variance Analysis)

Our Partner's Research Committee (PRC) meets monthly to brainstorm and strategize about various opportunities in the market and processes that we could implement for our clients. The Asset Allocation Team is charged with creating new tools each year to help improve the risk management and asset allocation process. Below are the tools used that go beyond mean-variance analysis:

1. Scenario Analysis: Interest rate movements and asset class returns are modeled according to six economic scenarios (base case, expansion, overextension, stagflation, recession, and what we've coined as 'de-lev-flation'), which in turn have a direct effect on the asset portfolio and the liability estimates from year to year.
2. Stochastic Projection: By utilizing software (ProVal from WinTech), we model a pension plan's actuarial liabilities, then project these liabilities along with the plan's asset allocation under various capital market assumptions. The output details the probability of various returns and outcomes, be they asset returns or plan funded status targets.
3. Liquidity Analysis: Not only do we categorize the liquidity of each asset class into timeframes, but we analyze the sources and needs for liquidity under both normal and stressed environments to ensure that there will be enough cash on hand to pay plan benefits, as well as capital and margin calls.

**3. Describe your firm's experience in serving as a discretionary fiduciary on behalf of collectively bargained multi-employer defined benefit pension plans. Describe your experience in working with clients who have established either "Funding Improvement Plans" or "Rehabilitation Plans" as required by the Pension Protection Act.**

We currently provide discretionary services to the Construction Industry & Laborers of Las Vegas and were recently hired to serve as a discretionary fiduciary for the private equity mandate for Desert States UFCW.

Our Taft-Hartley consultants currently work with several clients where benefit plans are in the "Rehabilitation" phase and have adopted "Funding Improvement Plans." Generally, we find that identifying the unintended risks associated with a plan's asset allocation is the starting point to make any modifications to the plan. Most often, plans who are entering "Rehabilitation" focus on the avoidance of large losses and preservation of capital. Our asset allocation/asset liability process includes the introduction of a "Risk Parity" strategy that focuses on ways to minimize and mitigate these risks and modify allocations. NEPC has added significant value to [Rehabilitation] client portfolios by being able to increase the overall portfolio return without increasing and in most cases reducing the level of overall portfolio risk.

**4. Provide at least two (2) examples of your firm's quantitative and qualitative analyses used to support decisions regarding asset allocation on behalf of ERISA defined-benefit plans. In each case, describe the client's investment objectives and how your asset allocation decisions were determined.**



NEPC uses both quantitative and qualitative measures when performing all of the services we provide our clients.

**Quantitative:** We use quantitative models based on modern portfolio theory when conducting our asset allocation studies for our clients. All of the inputs are run through the model to determine the most efficient way (highest return/lowest risk) to meet our client's needs. We also utilize quantitative measures when conducting manager searches for our clients. All of the characteristics associated with each manager considered are plotted in a quantitatively driven model that evaluates each candidate's size and style to confirm they are appropriate for the search. Correlation based quantitative analysis is also done with each potential manager to make sure that the diversification benefits will apply to our client's overall portfolio. Our performance monitoring also utilizes quantitative based technologies in comparing the current manager's performance, style, and size characteristics to other managers in the universe.

**Qualitative:** All of the quantitative based data is evaluated by our analysts and consultants and the qualitative stage of our analysis is tantamount in every step of the process. The asset allocation models have restrictions on asset classes based on qualitative intervention from the consultant to the plan in understanding the liquidity constraints, risk tolerance or policy/legal restrictions on some of our client's allocations. The inputs that are utilized for the data are generated by our asset allocation team. They develop return expectations of asset classes that are reviewed twice a year and regenerated at the beginning of each year. The qualitative analysis of return expectations can be deemed some of the most in-depth research our company produces annually. Manager searches have a lot of input from the analysts as they are meeting with the managers on a daily basis. Staff turnover, process deviations and buyouts cannot be quantitatively measured. In our performance monitoring, the qualitative expertise of our consulting staff in recognizing problems with our client's individual programs is the main reason our clients hire and retain NEPC. Consulting is a people business and you are only as good as the people who represent the firm. That is why we believe that NEPC has the most educated, knowledgeable and capable staff of any consulting firm in the industry.

Summarily, we believe that thoughtful risk management in asset allocation equally includes the qualitative process of identifying what can go wrong with contemplated courses of action, AND taking steps to keep the likelihood and magnitude of bad outcomes within tolerable limits.

We are providing two case studies for your review in Tab 9.

The first case study is an example of a client looking to meet and attain an expected return, in order to meet the Fund's actuarial needs (7.5%), with acceptable risk levels. The Case study demonstrates our typical process to achieving a client's goals with acceptable risk.

The second case study is an example of the evolution of a client portfolio upon recognition that the portfolio was heavily equity-focused. Sought to achieve a 7.75% return with lower levels of risk.



**5. Describe in detail the process by which your firm would identify, evaluate and select appropriate investments within the following asset classes. What are the critical features or terms your firm looks for in evaluating the attractiveness and risks associated with prospective investment strategies and products within these asset classes?**

- **US Equities**
- **Non-US Equities**
- **Global Equities**
- **Fixed Income**
- **Real Estate**
- **Private Markets**
- **Hedge Funds**

NEPC has created a unique and robust internal database of managers. This database houses our due diligence observations and assessments, including our one-on-one manager meeting write-ups, investment theses, and key historical data regarding products, personnel, organizational changes and our own 48-hour notification letters. In addition to this sizeable universe, NEPC uses a variety of databases in its manager research process, including our ICC database, the eVestment Alliance (eA) database, and Morningstar (please reference the chart below).

| Universe Characteristics                |                             |                             |          |
|-----------------------------------------|-----------------------------|-----------------------------|----------|
|                                         | ICC Universe<br>Portfolios* | eVestment Alliance<br>Firms | Products |
| <b>US Equity</b>                        | 5,249                       | 1,096                       | 4,000    |
| <b>US Fixed Income</b>                  | 4,293                       | 429                         | 1,987    |
| <b>US/Global Balanced (ICC)</b>         | 1,266                       | 111                         | 198      |
| <b>International Equity - Developed</b> | 1,950                       | 325                         | 746      |
| <b>International Fixed Income</b>       | 52                          | 28                          | 39       |
| <b>International Balanced</b>           |                             |                             |          |
| (see US Balanced for ICC)               | N/A                         | 3                           | 3        |
| <b>Global Equity</b>                    | 422                         | 443                         | 1061     |
| <b>Global Fixed Income</b>              | 373                         | 152                         | 460      |
| <b>Global Balanced</b>                  |                             |                             |          |
| (see US Balanced for ICC)               | N/A                         | 120                         | 207      |
| <b>Emerging Markets Equity</b>          | 660                         | 187                         | 329      |
| <b>Emerging Markets Fixed Income</b>    | 139                         | 79                          | 160      |
| <b>Real Estate</b>                      | 1,205                       | 101                         | 162      |
| <b>Target Date</b>                      |                             |                             |          |
| (see US Balanced for ICC)               | N/A                         | 31                          | 404      |
| <b>Target Risk</b>                      | N/A                         | 15                          | 55       |

|                                                                                             |                        |                |              |
|---------------------------------------------------------------------------------------------|------------------------|----------------|--------------|
| <b>Other</b>                                                                                |                        |                |              |
| (ICC: Mortgage, Stable Value, Venture Capital,                                              |                        |                |              |
| Private Equity, Hedge Funds and Cash.                                                       | 5,772                  | N/A            | N/A          |
| eVestment:                                                                                  |                        |                |              |
| Cash, Stable Value, Infrastructure, Alternatives/Hedge Funds)                               |                        |                |              |
|                                                                                             | <b>22,000</b>          |                |              |
|                                                                                             | <b>Portfolios</b>      |                |              |
| <b>TOTAL</b>                                                                                |                        | <b>2,021**</b> | <b>9,811</b> |
|                                                                                             | <b>1,113 different</b> |                |              |
|                                                                                             | <b>managers</b>        |                |              |
| *Data from ICC "Available Samples" (as of 12/31/11)                                         |                        |                |              |
| **Represents one count of an individual manager in the above categories. Data as of 8/1/11. |                        |                |              |

Our internal database is developed continuously and updated via input through our proprietary investment theses and impressions on investment managers and their products. Our researchers update their notes on managers throughout the year. The eA database is populated by investment managers and updated on a quarterly basis. The ICC peer universe is populated by data from custodial banks monthly. By combining all of these sources of input, NEPC gains a powerful advantage in the research process, auditing the manager-supplied data with actual results from client portfolios.

NEPC verifies the data by looking for anomalies in returns and patterns of return. If we find differences we will contact the manager directly to understand the reason for the differences or to determine whether an error has been made. By combining all of these sources of input, NEPC gains a powerful advantage in the research process, auditing the manager-supplied data with actual results from client portfolios.

This eA data collection platform provides the quantitative manager and product data, accessible in a standardized electronic format that can then be utilized as part of NEPC's proprietary manager product screening process. This platform also allows data to be downloaded into NEPC's performance analytics systems to enhance client reporting.

NEPC conducts over 2,400 manager meetings with as many as 1,100 firms per year in their offices and our offices. We cover all asset classes, emphasizing "Focused Placement List" managers, the highest conviction managers with whom we have met and believe have investment theses that present a competitive advantage in their respective areas of opportunity. Each meeting is thoroughly documented in our due diligence database. Our analyst write-ups are critical in tracking historical changes and opinions on managers.

NEPC seeks to identify top tier investment managers through the **ongoing** work of our experienced and dedicated 42 person research staff. In other words, our search for a



manager does not begin with the client assignment. It is a thorough, vetted and continuous process and is detailed below.

1. NEPC's search process begins with our research team screening both our proprietary internal databases and external databases for candidate managers that meet the Client's/NEPC's internally developed minimum criteria. The parameters take into account the uniqueness of each asset class along with the type of managers our clients may possibly need. If a manager meets the initial screens, our analysts consult both the SEC database and our internal due diligence database to identify whether there are any outstanding issues with the manager. From there we can identify how many managers will qualify for a given criteria set.
2. Next, our asset class specialists conduct a performance review by utilizing our internally-developed Performance Analytics Statistical Software (PASS), eVestment Alliance and StyleAdvisor. The PASS system allows NEPC to compare investment returns across the full spectrum of investment styles including fund of funds, direct funds and traditional investment managers. Importantly, the system allows for the examination of each candidate manager's excess return stream, or "alpha", over time. PASS allows us to contrast each manager's true, embedded beta to a variety of market factors and helps rank managers according to an array of customizable criteria.
3. Once we have isolated a set of managers for further analysis, the asset class specialists meet with the managers to assess the investment team, understand the firm's business focus, review investment philosophy, determine consistency of investment style, verify return attribution and liquidity, and dissect the investment process. If the manager meets all the established criteria to this point in the process, our asset class specialists document the investment thesis for the manager.
4. The specialist will bring the manager to NEPC's centralized Due Diligence Committee for vetting. The Due Diligence Committee is made up of senior members of the firm, including Partners and Senior Consultants. Any outstanding issues/questions from the vetting session are pursued by the research analyst and readdressed to the Committee. All successfully vetted investment managers are considered research-qualified and added to a Focused Placement List (FPL) at the research analyst's discretion.

NEPC will then prepare our investment manager search book and proceed through our due diligence and selection process internally with our Discretionary Committee. The evaluation process outlined above, coupled with the interviews and due diligence conducted with/on investment managers, allows us to form conviction about managers selected, conviction that is demonstrated by our historical record of outperformance in nearly every asset class that NEPC covers.

Our criteria for including investment managers in an investment program include return expectations and risk tolerance, liquidity needs, legal and or regulatory constraints, and fit within the fund's investment program.

The criteria we use to evaluate managers are based on what we refer to as the Five P's. They are:



- **People:** We want to be very comfortable not only with the key individuals responsible for an investment product, but also the organization that holds them together. Our belief is that organizations that lend themselves to stability and high levels of career satisfaction have a higher likelihood of outperformance. Ownership, incentives and overall professional stability, among others, are examined in considerable detail.
- **Philosophy:** We believe it is important to understand the basic thesis that drives a manager's investment process. For example, we want to know if the manager fundamentally believes in growth, value, bottom-up or top-down investing, and whether or not that philosophy is consistent with their actual implementation.
- **Process:** This is the most in-depth part of our research. We conduct considerable qualitative and quantitative analysis on the process(es) of each investment product of each firm we recommend to our clients. We are thoroughly familiar with the research, buy decision, portfolio construction and sell decision, and we compare each manager on a consistent basis.
- **Performance:** The performance phase of our analysis takes place after the firm's people, philosophy and process pass muster. Strong performance is irrelevant without a stable organization, an investment philosophy that makes sense, and a well-documented, repeatable investment process. When analyzing performance, we look at up-market and down-market performance, as well as correlations between each candidate manager's performance and the risk and return characteristics of the managers remaining in the client's investment program. This final step ensures that all serious candidates will "fit" well with the residual program.
- **Price:** As a final part of our due diligence, we carefully analyze managers' fee structures. We track all components of the fees our clients can be expected to pay, including management fees, entry/exit fees, performance fees, minimum fees, custody fees, and any other fees that may apply. We also determine whether or not most favored nations fees are offered, and the degree to which managers are willing to negotiate. As with performance, our due diligence is designed to ensure that all candidate managers are evaluated on a consistent basis.

The culmination of our evaluation process resides in the investment thesis that we develop for every manager profiled. We believe that, similar to stocks or bonds evaluated by active investment managers, we should have levels of conviction about managers and their ability to outperform. The evaluation process outlined above coupled with the interviews and due diligence we conduct with/on investment managers allows us to form opinions about the managers with whom our clients work, opinions that we believe are important to share with our clients.

Over the past three years we have completed over 591 alternative assets searches totaling \$14.5 billion. Upon determining clients' needs through the formal adoption of a plan, NEPC looks to execute that plan by identifying and selecting appropriate investment managers and products for our clients.

To identify appropriate investment managers, NEPC develops preliminary guidelines and criteria for candidate managers. These guidelines and criteria include stability of the organization, investment performance, consistency of the track record, professional staff experience and years with firm, assets under management, and appropriateness of terms. Next we perform extensive due diligence on managers passing the initial screening criteria. This includes a personal assessment of each firm's organization,



staff, investment process, philosophy, track record, access to deal flow, and due diligence capabilities, through in-depth meetings with the investment professionals of the manager. With respect to hedge fund of fund managers, while we generally do not directly review every underlying hedge fund, we use these conversations with managers to gain an understanding of the manager's general thought process and knowledge in selecting the underlying funds. This may include discussions of certain specific hedge funds to understand the hedge fund sourcing process, the hedge fund evaluation and due diligence effort, and the portfolio construction techniques that a manager uses.

Additionally, NEPC conducts a thorough quantitative evaluation of each manager. For private equity managers, NEPC evaluates the cash flows of each investment made by the organization to determine the key drivers of performance, such as key people, geography, industry, stage, size, style, and structure. For hedge funds, NEPC looks at the stability of the returns, the types of strategies and trades utilized, and drivers of returns.

NEPC maintains multiple avenues for investment opportunity sourcing. NEPC currently tracks more than 600 alternative asset managers and funds who manage assets on behalf of our clients. Additionally, we have access to private equity cash flow and performance data provided by Thomson Reuters and State Street Investment Analytics and utilize the PerTrac Fund database, each of which contains information on thousands of other funds and managers. Additionally, senior staff participates in numerous conferences throughout the year and serve on several educational committees which provide access to many new and emerging alternative asset managers. Furthermore, NEPC maintains an open-door policy for managers and receives leads on potential fund managers from clients. Consequently, we have a robust pipeline of available opportunities in the market.

To enhance our knowledge of managers, NEPC prepares *Due Diligence Questionnaires* for manager candidates requesting detailed information on the company background, organizational history, assets under management, professional staff breakdown, investment strategy and focus, investment process, product structure, and performance. These questionnaires help us understand the manager's process in more detail than the offering memoranda and marketing material permit. However, we do review the pitch books, private placement memoranda, limited partner agreement, and subscription documents, as well.

We seek to conduct on-site due diligence interviews with managers. There, we try to better understand both the investment process and the business execution risk of a candidate manager. Understanding issues such as compliance management, legal capabilities and portfolio monitoring is very important before recommending a manager to our clients. Furthermore, it is beneficial to meet more junior staff and other staff members who often can give us a better sense of the entire organization. Frequently these interactions require multiple visits to the managers' offices over multiple days.

Our research group has a budget to conduct a certain amount of on-site manager research every quarter. We have sent our analysts to cover managers in the major financial centers in the U.S., Europe and recently Emerging Asia and continue to dedicate even more resources to this effort as we grow. Whenever we visit a client, we

always try to schedule as many manager meetings around the client meeting as possible, maximizing the benefit from each trip we make.

Upon completing the work on a manager, a formal investment memorandum is prepared for the Alternative Assets Due Diligence Committee. The due diligence process is overseen by NEPC's Alternative Assets Committee, which is made up of the key professionals involved in evaluating alternative assets, in addition to other senior (and very experienced) members of the consulting staff. The Committee is ultimately responsible for vetting any manager that is to be placed in NEPC's clients portfolio, as well as those that have already been retained by our clients. This Committee allows NEPC to lever the deep resources of our consulting staff, while ensuring that each manager we recommend is thoroughly and consistently evaluated.

**6. Describe the extent to which your firm normally uses active vs. passive management in the publicly-traded asset classes noted above.**

Unlike most consulting firms, we believe the answer to the passive/active question is not black and white. NEPC explores all options when determining portfolio structure. Market efficiency, cost and market conditions all play a role in determining the optimal execution strategy. Ultimately, we believe both passive and active investing play important roles in our clients' portfolios. In the more efficient asset classes, such as core bonds and large cap equities, we believe that active management is preferable when markets are broad, and that passive is preferable when markets are narrow and concentrated. The markets were concentrated in the late 1990's and passive management was preferable, but the early 2000's we saw a decided shift to active management as the markets broadened. Since it is very difficult, if not impossible, to call the turns, we regard active, including enhanced indexing, and passive as complementary (rather than competing) strategies in these efficient asset classes.

In the less efficient asset classes, such as high yield bonds, small cap, emerging and international equities, we most often advocate active management. The small cap indices historically are inefficient and poorly constructed, evidenced by active management's ability to outperform them over time. We advocate active management for international equities in order to build a diversified investment program across geographic regions. We believe an EAFE Index fund is excessively risky due to the high concentration in a couple of countries (Japan and the UK at over 20% of the EAFE Index each). Whether to be active, passive or some combination is also influenced by our clients' objectives and other considerations, such as the size of the fund, the allocation to traditional and non-traditional asset classes, and the availability of best in class managers. With regard to the last point, at various points in the investment cycle, due to fund flows or market appreciation, situations have occurred where best in class managers in the smaller market niches (such as small cap and emerging markets) have been closed.

Passive funds can also be used to implement global asset allocation (GAA) strategies. In a passive GAA program the value added comes purely from asset allocation shifts (across stocks, bonds and cash) versus active management of the underlying assets. NEPC has conducted quite a bit of research in this area and these programs have added material value across our client-base over the years.



**7. In making rebalancing decisions, describe the extent to which your firm tactically rebalances portfolio assets to take advantage of short term market movements or makes rebalancing decisions solely focused on maintaining the long term asset allocation targets.**

We believe in two types of rebalancing: tactical and strategic. With regard to shorter-term or “tactical” asset allocation decisions, we have two levers to implement tactical decisions. The first is when our Research Committee identifies tactical opportunities in the markets that can be exploited by our clients. Specific to discretionary clients, these opportunities may surface several times per year, or not at all depending on the volatility of the markets and the amount of fear and greed that exists. A specific example is the multitude of tactical opportunities that surfaced coming out of the market disruption in 2008-9, where we identified multiple credit strategies for our clients to exploit. Another example is the current disruption taking place in Europe, where significant dislocations are taking place and opportunities have arisen. A specific strategy that we are pursuing is in European real estate where banks are being forced to divest assets and smart investors can buy income-producing real estate for fractions of their current value. NEPC has a documented list of opportunistic ideas that we have successfully implemented in client portfolio dating back to 2003.

We are also proponents of global asset allocation (GAA) strategies. These strategies permit skilled managers to adjust the asset allocation of their strategies on a real time basis based on their assessment of which asset classes are “cheap” (desirable) and which asset classes are “expensive” (undesirable). GAA also results in the placement of the fiduciary responsibility for these asset mix changes (within policy limits) on the shoulders of professional money managers.

NEPC firmly believes in “strategic” or long-term rebalancing guidelines to stay within the minimum and maximum ranges around the target allocation. The establishment of a target asset allocation is a statement about the risk tolerance of the Investment Committee. Therefore, when the actual asset allocation deviates substantially from the target mix, it will move the Plan to an undesirable forward-looking risk position. Rebalancing is required to maintain the agreed upon risk level established by the Committee. However, we are proactive with our asset allocation recommendations and may advocate slight tilts away from the target mix to take advantage of opportunities we have identified in the markets. For example, we recommended an opportunistic allocation of 0%-10% across our entire client base to credit strategies to take advantage of market dislocations as described above.

An effective rebalancing policy adheres to the oldest and simplest theory in investing; “buy low, sell high”. Though simple to say, it is enormously difficult to implement due to natural human emotions. As history has shown, market preferences for different asset classes always peak and wane. This historical fact allows for rebalancing to add value in addition to controlling risk. Continuously well-balanced portfolios will avoid “giving it all back” by “taking profits” before the reversal. Simultaneously, the under-performing investment will be at its full allocation and thus well positioned for the rebound. However, in the current environment, one of the key issues we are mindful of in shifting asset allocation is transaction costs. Heightened volatility and transaction costs are additional variables that Plans need to consider in making opportunistic shifts in asset allocation.

**8. Discuss your firm's tracking system for prospective investments. What asset classes continually evaluated? How many investment opportunities and managers are tracked? What quantitative and qualitative criteria are maintained? How many in-person meetings did the firm conduct in 2010 and 2011?**

Please refer to our response to question 5. above.

**9. Please describe your firm's approach to the investment selection/due diligence process. What are the most important criteria? Who is involved in the decision-making process? How many investment opportunities did the firm screen in 2011? How many investment opportunities did the firm perform in-depth due diligence upon in 2011?**

Please refer to our response to question 5. above.

**10.If your firm manages (or anticipates or is contemplating managing) any fund-of-funds please describe those vehicles and detail how the decision is made to invest client assets in proprietary commingled vehicles relative to separate account allocations.**

NEPC does not and will not create proprietary products. We believe there are significant issues and conflicts of interest imbedded in funds-of-funds products for a discretionary consultant. Conflicts include the fee incentives a discretionary manager has to place client assets in their collective funds even if it isn't 100% consistent with the client's goals and objectives; the significant issues surrounding how fees are allocated within a funds-of-funds and whether it is possible to get complete visibility of the fees paid; and, if funds-of-funds are used in client portfolios, termination of a relationship forces a client to terminate all of their existing holdings and incur significant transaction charges in order to move to a new consultant.

Lastly, another hidden issue is the ability of a discretionary manager to attract top-tier investment managers to participate in their funds-of-funds product. If clients look below the surface of typical funds-of-funds products they will note the use of large investment firms with significant capacity. Many of these large firms typically have somewhat average performance. Few of the truly skilled investment managers want to take significant assets and a constant push for fee reductions while using up precious capacity in order to be an investment manager within a funds-of-funds structure.

**11.Please describe your firm's ability to educate trustees on investment matters. What experience do the individuals have conducting educational workshops? What types of research materials does your firm develop or have available for clients? Please provide samples of such research reports or white paper.**

NEPC conducts educational programs for all of its clients. These sessions are customized for each client and have run from one half day in length to three days in length, depending on their frequency and the topics covered. We have presented educational pieces to large groups as well as individuals. Samples of some of our education pieces include: Trustee responsibilities; defined contribution plan design; understanding REIT



funds and the differences between REITs and true real estate; understanding inflation and investments like Treasury-Inflation Protected Securities (TIPS) that provide inflation protection closer to retirement; as well as two items we are currently working on including the next evolution of advice, and guaranteed retirement options for defined contribution programs.

NEPC also sponsors an annual client conference in Boston, Massachusetts each spring. Investment managers do not subsidize or underwrite NEPC's client conferences or workshops, thereby avoiding this potentially significant conflict of interest. The only way money managers can attend our client conference is if they are invited to speak on a specific topic and agree not to include any sales material.

Our 17th Annual Client Conference was held on May 15-16, 2012 at the Boston Convention and Exhibition Center. We focused on the opportunities and challenges our clients face in the market, giving our clients a great opportunity to interact with our consultants, other clients and outside speakers. Featured speakers included **Jim O'Neil** from Goldman Sachs, **Bruce Richards** from Marathon Asset Management and **Ken Mehlman** from Kohlberg Kravis Roberts.

Our 16<sup>th</sup> Annual Client Conference was held May 18-19, 2011 at the Boston Park Plaza Hotel. Featured speakers included **Bob Prince**, Co-Chief Investment Officer of Bridgewater Associates, LP, **Edward Ladd, CFA**, Chairman Emeritus of Standish Mellon Asset Management Company, LLC and **Daniel Och**, Chairman and Chief Executive Officer of Och-Ziff Capital Management Group.

Client education is of paramount importance to NEPC, as greater understanding of investment fundamentals and complex current investment issues by both trustees and employees assist each group in its efforts to enhance returns and reduce risk.

NEPC is a research-driven consulting firm, as evidenced by the list of papers generated by our research and consulting teams over the past few years. We do not sell our research to outside parties. Instead, all of the research we generate is for the express benefit of our clients and our consulting effort.

A list of recent research papers is provided below.

- **Risk Parity – What Were We Thinking?** (May 2012) – Timothy McCusker, FSA, CFA, CAIA, Partner, Director of Traditional Research
- **Investing in Activist Hedge Fund Strategies – An Opportune Time** (May 2012) – Dulari Pancholi, Research Consultant
- **Old Phrases, New Phases: NEPC's 2012 Asset Allocation Letter** (January 2012) – NEPC Asset Allocation Committee
- **The Barbarous Relic Strikes Back: The Role of Gold in Investment Portfolios** (December 2011) – Sean W.B. Gill, CFA, CAIA, Director of Alternative Assets Research
- **Investing in Volatile Times: A Dynamic Approach to Asset Allocation** (December 2011) – Erik Knutzen, CFA, CAIA, Chief Investment Officer

- **US Private Core Real Estate Investing** (September 2011) – Sean Ruhmann, Senior Consultant, Private Markets; Claire Woolston, Consultant, Private Markets
- **Long/Short Equity Healthcare Sector Funds: The Case for Specialization** (July 2011) – Timothy Bruce, Research Consultant; Nate McNamee, Research Analyst
- **The Case for Disaggregating Core Fixed Income** (April 2011) – Joel Paula, CAIA, Research Consultant
- **Managing Developed Country Currency Risk – A Proactive Approach** (April 2011) – Tim McCusker, FSA, CFA, CAIA, Partner, Director of Traditional Research
- **Absolute Tracking: Moving Past Absolute Return for Hedge Fund Benchmarking** (April 2011) – Richard J. Harper, CFA, CAIA, Senior Consultant
- **The Long View: NEPC's 2011 Asset Allocation Letter** (January 2011) – NEPC Asset Allocation Committee
- **Applying a Risk Budgeting Approach to Active Portfolio Construction** (December 2010) – Tim McCusker, CFA, CAIA, FSA, Partner, Director of Traditional Research
- **Global Macro Hedge Fund Investing: An Overview of the Strategy** (November 2010) – John Casano, CAIA, Senior Consultant
- **Improving Equity Portfolio Efficiency: The Case for Long/Short Equity** (October 2010) – Tim Bruce, Senior Analyst and Kristin Reynolds, CFA, CAIA, Senior Consultant
- **Securities Lending Revisited** (October 2010) – James Reichert, CFA, Senior Consultant
- **Healthcare Investment Portfolios Governance and Staffing** (September 2010) – Healthcare Team
- **Senior Secured Direct Lending** (September 2010) – Frank Barbarino, CAIA, Consultant
- **Endowment & Foundation Spending in an Integrated Asset/Liability Framework** (August 2010, Reissued February 2011) – Kristin Reynolds, CFA, CAIA, Senior Consultant
- **Corporate Distressed Investing** (May 2010) – Private Markets Team
- **Distressed Real Estate Investing** (May 2010) – Private Markets Team
- **Revisiting the Active vs. Passive Decision – Moving Beyond the Data-Driven Framework** (April 2010) – Erik Knutzen, CFA, Chief Investment Officer
- **Risk Parity: In the Spotlight After 50 Years** (March 2010) – Christopher A. Levell, ASA, CFA, CAIA, Partner
- **Understanding Duration Risk in Pension Plans: The Case for LDI** (January 2010) – David W. Moore, ARM, CEBS, CPCU, Partner
- **LDI Product Types and Implementation Strategies** (January 2010) – David Moore, ARM, CEBS, CPCU, Partner

- **Risk Budgeting: A Focus On A Pension Plan's Biggest Risks** (January 2010) – Lynda Dennen, ASA, EA, Research Consultant, David Moore, ARM, CEBS, CPCU, Partner
- **Pension Protection Act Regulatory Updates and Their Effects on Liability Driven Strategies** (January 2010) – Lynda Dennen, ASA, EA, Research Consultant
- **Opportunistic Investing in the Strategic Asset Allocation Framework** (January 2010) – Erik Knutzen, CFA, Chief Investment Officer
- **Leverage, Hedge Funds, and Risk** (Summer 2009) – Frank Barbarino, CAIA, Consultant, Hedge Funds
- **Real Assets and Inflation Hedge Investing** (July 2009) – Edward J. O'Donnell III, CFA, Consultant
- **Roth Revisited. Higher Prospective Tax Rates Renew Interest in Roth 401(k)s and 403(b)s** (July 2009) – Christine A. Loughlin, CFA, CAIA, Partner; Paul J. Kerry, ASA, EA, Senior Consultant
- **Stable Value on the Brink, But Surviving. The 2008 – 2009 Experience** (July 2009) – Ross Bremen, CFA, Partner; Brian Donoghue, Consultant; Rebecca Cummins, Analyst
- **TIPS for Defined Contribution Investors** (June 2009) – Christine A. Loughlin, CFA, CAIA, Partner; Nick Petrucelli, Analyst
- **Looking into the Future Casts Shadows – A Perspective on Portfolio Theory, Fat Tails, and Risk Management** (May 2009) – John R. Minahan, Ph.D., CFA, Senior Investment Strategist
- **Hedge Funds: Broken or Damaged?** (Spring 2009) – NEPC Research

Each of our research analysts is a specialist for a specific asset class in terms of research and due diligence, assessing new products and technology in their asset class. Special research projects are frequently undertaken in response to specific client requests or other issues that we feel are of interest or importance to our clients. We generally assign research duties to teams composed of analysts and consultants in line with the individual's background experience and the topic being researched.

Virtually all of our research projects are summarized in brief research packets which, when appropriate, are shared with our clients. Additionally, our quarterly newsletter, Market Thoughts, is distributed to all of our clients and includes a narrative and quantitative description of market activities during the period.

Generally, research is delivered electronically by e-mail or the Internet. In addition, we offer a password protected client specific log in at the NEPC web site for client access. Each client can register online, and once they are approved, login using a password for private access to their reports and research.

You may go to our website <http://www.nepc.com/research/> to view our Market Thoughts newsletters and for a categorized listing of research papers to discover which research papers pertain to you. We also have client webinars to discuss our research findings.



Additionally, the consulting team will provide updates on market analyses.

**12. Describe any significant innovations or insightful investments your firm implemented for institutional investors over the past several years. Include the names of key staff involved in these developments.**

Overall, NEPC has created significant innovations and insightful investments for our clients and made significant contributions to the investment consulting field. From an innovation stand-point, NEPC was one of the first consulting firms to tactically adjust client portfolios as demonstrated by our track record of tactical moves dating back to 2003 – a track record that demonstrates significant capability as demonstrated below. We have been industry leaders in key asset allocation innovations including the application risk budgeting, scenario analysis stress-testing and liquidity analysis for our client portfolio. These risk management tools are an important component of the plan oversight we provide to our clients.

In addition, NEPC has worked with multiple investment firms to create products to fill specific needs of our clients. These firms include Wellington, GMO, PIMCO, TCW, Putnam, Barclays, among others. NEPC clients were the first to fund products at these firms as we were targeting specific investment strategies and niche opportunities. A good example is the work we did with TCW where we worked extensively to create a Labor-friendly product that ensured the distressed Fund DID NOT lend to non-union companies. In the case of North Sky Capital Clean Tech Fund, NEPC stipulated that all jobs created would be union jobs as a provision for client investment. In the case of the new construction of PIMCO's Newport Beach headquarters, NEPC appealed directly and successfully to management to open the contracting process to organized labor.

We are also leaders in other market areas. On the defined contribution side, we are the only consulting firm to testify in each of the Department of Labor's major hearings in the last three years. We have completed our sixth annual Plan and Fee survey and helped the Department of Labor craft its recently issued fee disclosure regulations. We have also completed numerous white papers on key topics such as stable value. On the corporate pension side, we are an industry leader in liability-driven investing (LDI).

Our Chairman & Founder, Dick Charlton, co-chaired the Consultants Performance Presentation Standards Task Force that developed industry-wide manager performance reporting standards.

We publish regularly on key topics of interest and are frequent speakers at conferences of industry leaders. Our published research (visit [www.nepc.com](http://www.nepc.com) for a full listing) is extensive and we believe this keeps us abreast of emerging trends and issues that our clients should be aware of.

**13. Please provide a sample/model contract that your firm would propose for the scope of services described.**

We have provided a sample contract in Tab 5.

**14. Describe your firm's experience advising or structuring portfolios for defined benefit plans headed for insolvency, including the type of plan (corporate,**



**multi-employer, etc). Additionally, please detail the investment strategies you have put in place (or recommended) to address the solvency issue.**

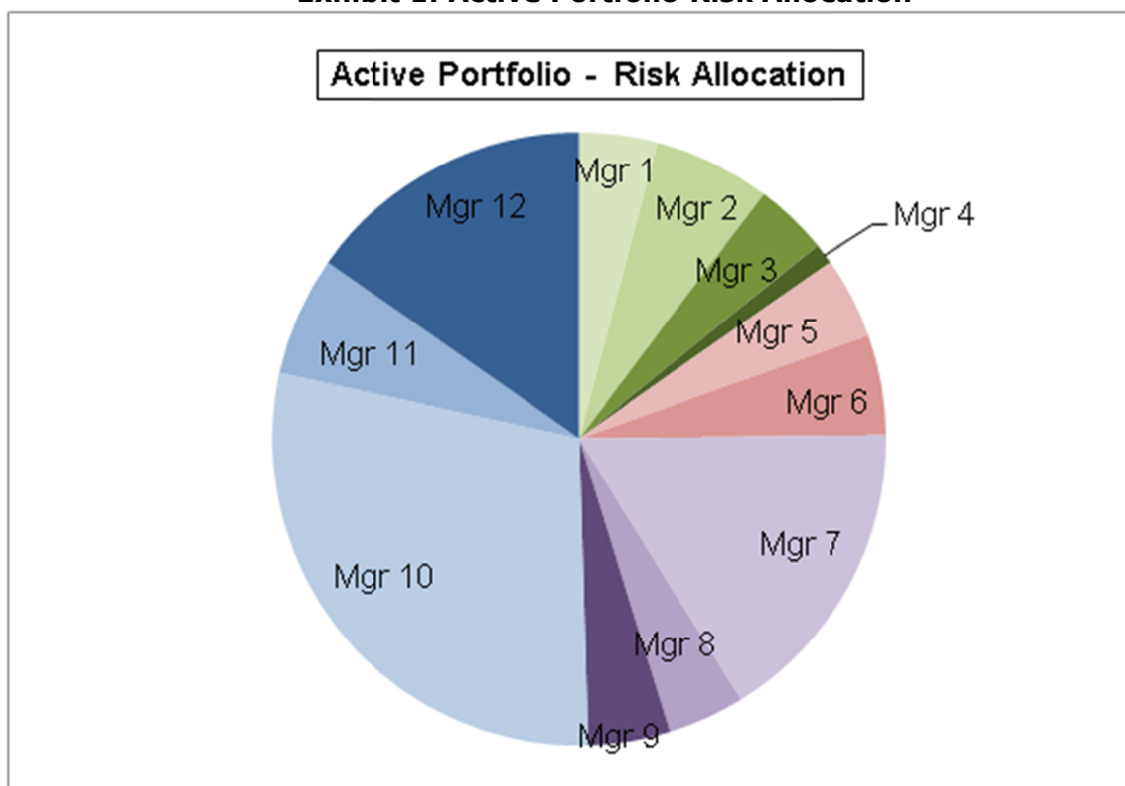
NEPC uses the following processes and tools to build out client portfolios under our Discretionary Services platform. As noted earlier, our Discretionary Committee makes decisions on client portfolio based on the goals, objectives and investment guidelines agreed upon during our initial and periodic reviews with the client. The Discretionary Committee acts in the place of the plan sponsor, making investment decisions for the program based on the known facts to create the best fit investment program for each respective client. Our consultants act as the interface with the client to understand how the client's goals and objectives may evolve over time, to ensure that evolving goals and objectives are incorporated into recommendations on asset allocation and investment managers to the Discretionary Committee, and to report back to the client on actions taken by our Discretionary Committee.

The process of analyzing a client's investment portfolio structure begins with a review of the Fund's investment policy statement, and an in-depth discussion of the plan sponsor's goals and objectives. A liability-driven asset allocation study is conducted to determine the optimal mix of assets forecasted to meet the target return goals. We look at the impact of liabilities on an asset mix on a real and nominal basis. We look at asset allocation from a risk budgeting perspective to make sure we understand each asset class' contribution to total plan risk. We will also look at asset mixes under different economic scenarios. The target asset allocation is reviewed on an annual basis through an asset allocation study to confirm that goals and objectives are still attainable. The asset allocation study incorporates our current forecasts for return, risk and correlation of asset classes. Please refer to Section E.2. above for a detailed description of our asset-liability process.

The next step in developing the appropriate structure is finding high conviction active strategies. A high conviction strategy should have a repeatable investment process with a competitive edge relative to the market. This process and competitive edge must be articulated through NEPC's rigorous four step manager research process into a well-articulated investment thesis. The core of the process is gathering qualitative and quantitative data on investment products and developing our own investment thesis to determine how the product would best suit our clients' needs.

Once an appropriate manager roster has been determined, we use our proprietary "Active Risk Budgeting" tool to combine statistical analysis with our research team's expertise to develop an efficient active manager structure. By modeling each strategy's expected tracking error and correlation to other strategies in the portfolio, we develop an active risk budget. By understanding the total active risk within each asset class and the contribution to risk by each strategy, we can allocate to strategies appropriately so that no one strategy dominates the active risk profile of each asset class.

### Exhibit 1: Active Portfolio Risk Allocation



By analyzing each strategy's beta and alpha exposure separately over time, we can identify the manager's value added and net out market exposure over time. We can also identify managers which tend to increase and decrease exposure to the market at similar times, leading to high correlations between the two strategies.

This robust quantitative analysis is a critical tool in building efficient active portfolios. When combined with our opinions on each manager, NEPC is able to construct manager allocations within each asset class with higher expected information ratios – providing our clients with the most efficient exposure to alpha per unit of active risk, while working within the constraints of the chosen long-term strategic portfolio.

With respect to insolvency, many of our clients have required additional customization. We have found that portfolios can generally employ many of the same asset allocation approaches as typical plans. However, we have worked with clients to stress the importance of preserving capital (when appropriate) as well as using a conservative liquidity structure. Taking advantage of the "illiquidity premium" can often be a bad risk to take when the time horizon for investing is abbreviated, like many involment programs. Building and following a customized glide path is the key to success.

#### 15. Describe your firm's experience with frozen plans including the type of plan (corporate, multi-employer, etc).

Among our 87 corporate defined benefit clients, we estimate that about a third, or approximately 30 of these plans are closed or frozen.

We believe that each client portfolio is unique and each NEPC client benefits from a focus on specific constraints and objectives. *We do feel that frozen plans have distinctive characteristics and we have considerable experience working with these plans.* We have attached our paper, Asset Allocation for a Frozen Plan in Tab 10, which shares our insights in detail. Specifically, we have helped many clients develop glide paths for their frozen defined benefit plans. Our frozen plan framework paper outlined a glide path approach before the term "glide path" became popular. In short, we believe that there is an opportunity for frozen plans to dynamically migrate assets to best meet liabilities on an eventual insurance buyout termination basis. As funded status improves -- through higher interest rates, favorable returns from risky assets, and/or contributions -- assets respond and follow a path of longer interest rate duration and less risky assets. If participants in a frozen plan are being transitioned to a new plan, often times the two plans can stay administratively paired for scale benefits. We have advised clients to embrace unitized investing within their custodial accounts, so that fee savings can be scaled appropriately across both plans.

**16. With respect to newly formed plans, describe your firm's experience advising or structuring portfolios, including the type of plan (corporate, multi-employer, etc). Additionally, please detail the investment strategies you have put in place (or recommended) for brand new plans.**

Often times the initial capital flows into new plans have allowed us to achieve a well diversified allocation almost immediately. We have advised clients through all phases of plan development, transition, and even administrative design. During periods of uncertain cash flows (common during new plan formation), we have worked with clients to utilize ETF strategies or transition/overlay managers to quickly achieve asset allocation goals. We also view new plans or those with new goals as an opportunity to re-evaluate the benefits of active and passive management. While we feel that active management is a critical part of investing, there are some instances where passive investing makes sense. We would encourage clients to consider passive fee savings in efficient asset classes (ie. large cap equity), and understand where the active fees are being spent. With the exception of account minimums, it is relatively straightforward to build out a brand new plan. In the case of most new or terminating plans, NEPC would recommend using a unitized approach with the custodian to achieve better scale. Lastly, because of NEPC's overall scale we are able to negotiate fee concessions and minimum allowances that may not be otherwise available should unitization not be possible.