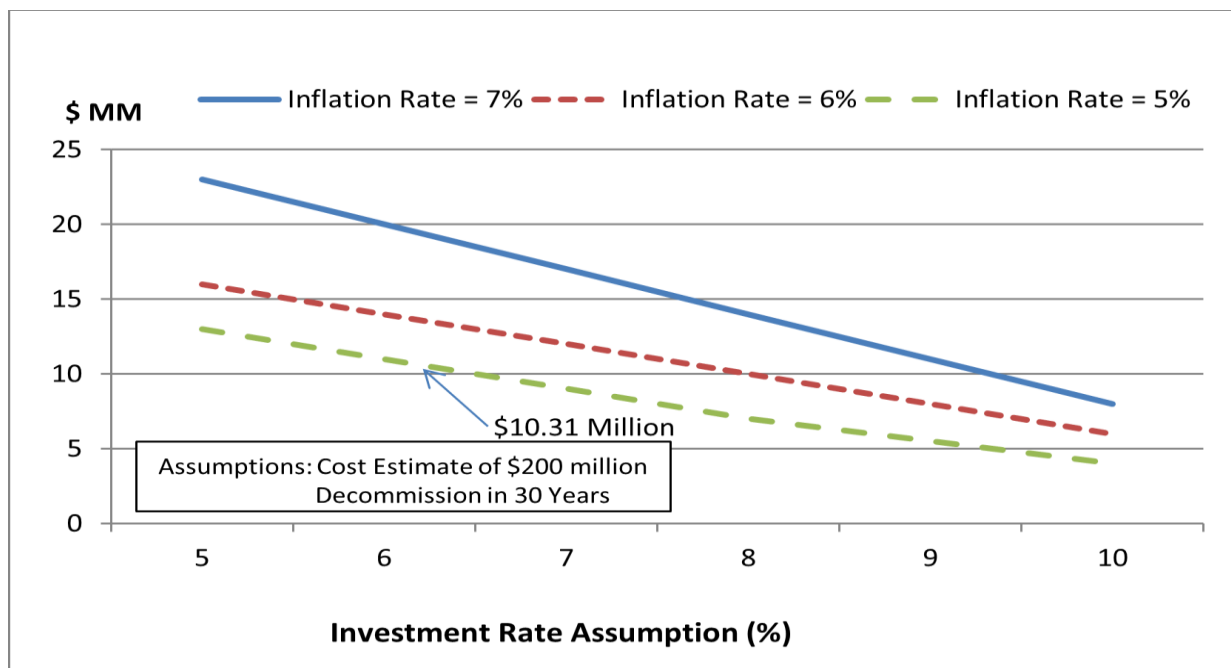


Emad A. Zikry, President and Chief Executive Officer

## Funding for the Costs of Nuclear Decommissioning

### The Issue:

Electric utility companies face substantial costs associated with the future decommissioning of their nuclear power plants. Cost estimates for this procedure range from \$100 million to \$2 billion per reactor. This wide dispersion in cost estimates reflects the uncertainty regarding: (1) technological improvements in the decommissioning process; (2) the regulatory environment concerning decommissioning; and (3) the macroeconomic environment, particularly the rate of inflation between the current period and the time until the completion of the decommissioning process.



### The Solution:

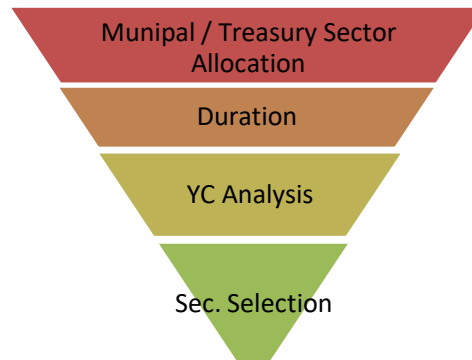
The Federal Government has provided for the establishment of nuclear decommissioning trusts (NDT's). These trusts, to be "qualified" must be established externally and adhere to the "black lung" restriction (IRS Rule 468A) which limits investments to U. S. Treasury securities, obligations of state and local governments, and deposits at domestic commercial banks. Annual "ruling amount" (determined by the Federal Government and based on estimated

future decommissioning costs) contributions made to such qualified NDTs are tax-deductible. However, the NDT itself is considered a separate taxable entity and, as such, earnings on the assets are subject to the maximum corporate tax rate.

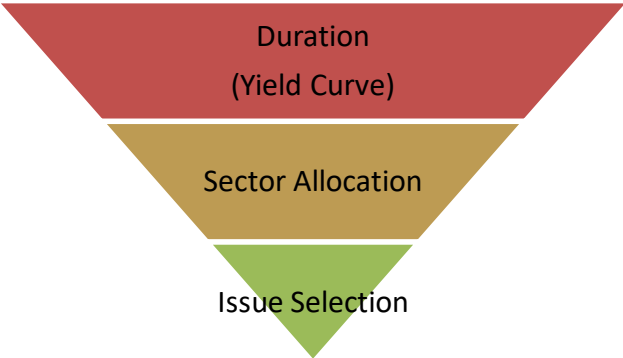
The preferential tax rate treatment accorded contributions made to a qualified NDF makes a strong argument for the establishment of qualified trust funds. However, the uncertainty associated with the timing and cost of future decommissionings makes the design and implementation of a prefunding investment strategy difficult. Vanderbilt Avenue Asset Management has developed a three phase investment program for the management of qualified trust funds.

In the early years, timing and costs of the eventual decommissioning are highly unpredictable. At this stage the preservation of capital and hedging against inflation should be of paramount concern. Short-term fixed-income securities offer an excellent hedge under the circumstances and, therefore, a portfolio strategy focusing on preservation of capital via a short duration structure is optimal. Vanderbilt Avenue Asset Management's Short Duration program satisfies these needs. Short Duration has as its investment objectives: (1) preservation of capital, (2) liquidity and (3) performance. Focus on the preservation of capital makes sure the program does not suffer a loss of value (which is critical in the early stages to keep from falling behind the pace of inflation). Emphasis on liquidity ensures that the program has the flexibility to respond to opportunities for adding value and to take advantage of legal, regulatory or technological changes that may eventually affect decommissioning. After satisfying the first and second objectives the approach seeks to provide superior returns through:

- Allocating between municipal and treasury sectors
- Positioning duration between one and three years
- Analyzing yield curve to discover pricing anomalies
- Implementing trading strategy to add value



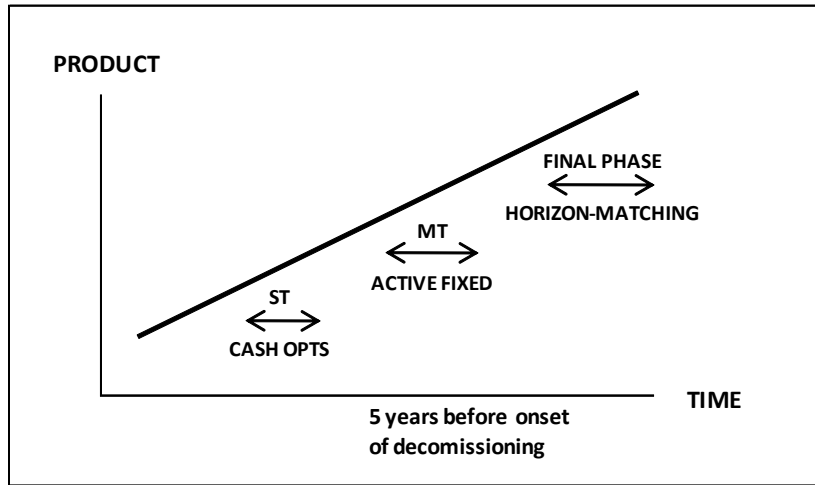
Once a surplus has accumulated in the program we would employ VAAM’s active fixed income strategy. Value is added through duration/yield curve positioning, sector decision and issue selection. At this stage of the decommissioning process a little more risk can be taken in search of greater return.



In the later years, as the NDF grows and the timing, technology, and associated costs become more predictable, the investment strategy should move to a horizon-matched strategy. Inflation is still a concern here, but as the time to decommissioning approaches, the effects of changing inflation decrease exponentially. At this stage the most effective approach would be the establishment of a horizon-matched portfolio with cash flows equal to those of the projected cost of the decommissioning. Additionally, the horizon-matched portfolio would have a duration equal to that of the liability to preserve the funded status of the program in the event of a change in interest rates.

**MANAGEMENT STYLE**

|                     |                                 |
|---------------------|---------------------------------|
| Initial Phase:      | Active/ST.....Cash Optimization |
| Intermediate Phase: | Active/MT.....Fixed Income      |
| Final Phase:        | Passive.....Horizon-Matching    |



Vanderbilt Research Team

## **Emad A. Zikry**

**Chief Executive Officer**

**Vanderbilt Avenue Asset Management**

Emad is the Managing Partner and Chief Executive Officer of Vanderbilt Avenue Asset Management LLC. Vanderbilt's client base includes Multi-national Corporations, Public Funds, Foundations/Endowments, and Taft Hartley accounts.

Previously, Emad was Chairman of Institutional Business at Pioneer Investments. Pioneer investments has more than \$300 Billion in assets under management. The parent of Pioneer, UniCredit S.p.A., is the largest bank in Italy and the second largest bank in Europe. Pioneer had purchased Vanderbilt Capital Advisors, of which Emad was the founder and Chief Executive Officer.

Emad has had numerous articles published in professional and academic journals such as The Journal of Forecasting, The American Economist and The Journal of Fixed Income. He is a Board member of The National Investment Company. Emad was a member of the Board of Advisors of the Pacific Institute, The Advisory Committee of Fulcrum Global Partners, The Chief Executive Officers Club and formerly a board member of The Foreign Policy Association. He also served on the Board of Directors of the University of Albany Foundation, NextGen Healthcare Inc., The Park Avenue Bank, AA Bank and The New Providence Fund and Associates LP.

Emad is an FINRA Arbitrator. He is also a member of the National Association for Business Economists and The Economic Club of New York. Emad served as an adjunct professor at the University of Kansas and St. John's University.

Emad holds a Bachelor of Science from the University of Albany, and a M.A. and Ph.D. in Economics from the University of Kansas.