

NUCLEAR **D**ECOMMISSIONING **T**RUSTS

2010 Survey of Trust Sponsors



NISA INVESTMENT
ADVISORS, L.L.C.®

Nuclear Decommissioning Trust Survey

NISA Investment Advisors, L.L.C. (NISA) is pleased to present the 12th edition of the biennial Survey of Nuclear Decommissioning Trust (NDT) Sponsors. This report is published as a resource for, and service to, the NDT community. It is intended to provide insight into investment activities and trends within the NDT industry. Information contained herein has many potential uses and a variety of audiences, including trust sponsors, federal and state regulatory bodies, trust custodians, and investment managers.



U.S. Nuclear Power Plants

- The U.S. Department of Energy projects that U.S. electricity demand will rise 24% by 2035, about 1% each year. Maintaining nuclear energy's current percent share of generation would require building one reactor every year starting in 2016, or 20-25 new units by 2035, based on DOE forecasts, according to the NEI.
- The U.S. Nuclear Regulatory Commission is actively reviewing 12 combined license applications from 11 companies and consortia for 20 new nuclear power plants.
- There are currently 104 nuclear power plant reactors licensed to operate at 65 sites in 31 states by 32 companies with a total generating capacity of approximately 101 MW(e). Investor Owned Utilities (IOUs) represent approximately 82% of total operating megawatt capacity.
- Currently, 29 power reactors are undergoing decommissioning or have completed a significant portion of decommissioning.
- The NRC has approved twelve 20-year license extensions since the 2008 Survey; 16 others are currently under review and 20 additional submissions are anticipated, according to the NRC.

Survey Data

- Surveys were sent to IOU owners of nuclear plants requesting information as of December 31, 2010. Twenty-four surveys, representing 96% of IOU megawatt capacity, were completed and returned.
- Unless otherwise noted, averages are calculated based on the number of responses.

NISA wishes to thank NDT sponsors for their participation in this survey.

Jess B. Yawitz, Ph.D.
Chairman & Chief Executive Officer

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President

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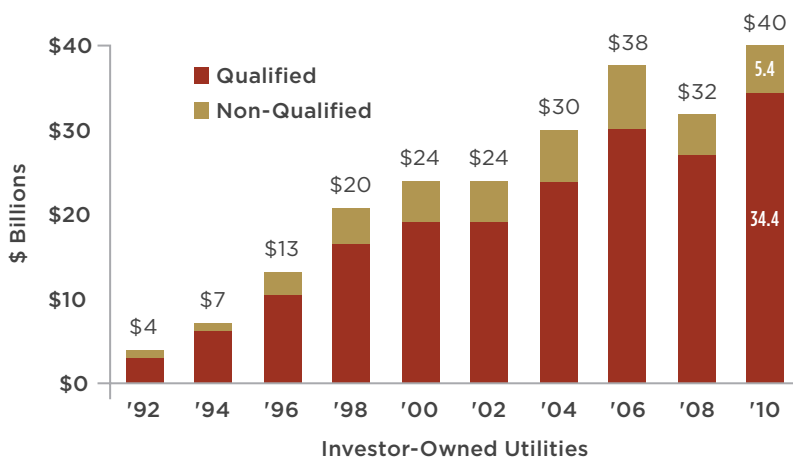
Nuclear Decommissioning Trusts

Estimated Assets

The total estimated market value of NDT assets held by Investor-Owned Utilities grew to almost \$40 billion, an increase of 25% (\$8 billion) from the last survey. Qualified Trust assets increased 28%, while Non-Qualified Trust assets increased only 6%. The difference in asset growth was due to variations in asset allocation within each trust type and the continued pour-over of Non-Qualified Trust assets into Qualified Trusts.

Based on information obtained from recent 10 CFR §50.75(f)(1) filings, Public Power Authorities, Municipalities, and Cooperatives held over \$4.7 billion in NDT assets as of December 2010. Including non-IOU owners, total combined Nuclear Decommissioning Trust assets were estimated to be approximately \$45 billion as of year-end 2010.

Total Estimated Assets

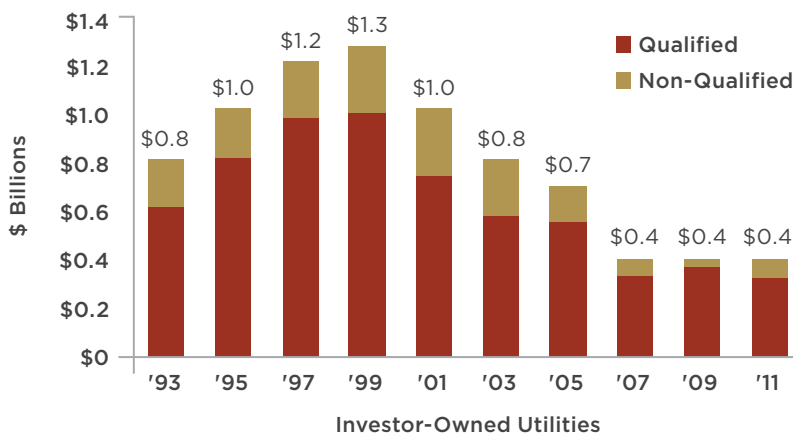


Expected Contributions

Expected contributions declined slightly from the prior survey. Projected 2011 contributions were \$368 million, with \$324 million to Qualified Trusts and \$44 million to Non-Qualified Trusts. Longer investment horizons resulting from license extensions could be the basis for lower annual contributions.

83% of respondents indicated continued contributions to Qualified Trusts and 46% of respondents indicated continued contributions to Non-Qualified Trusts.

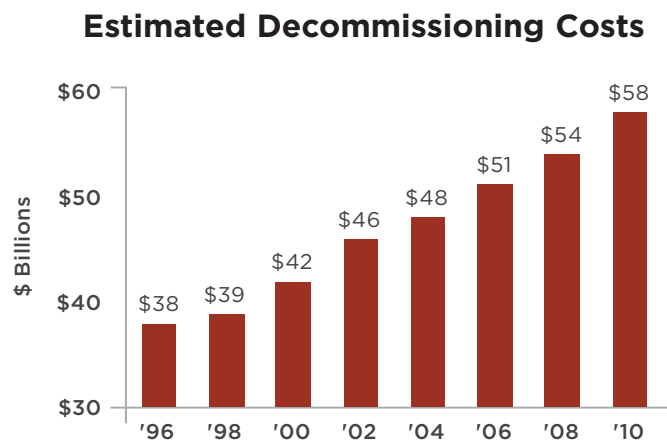
Total Expected Contributions



Estimated Decommissioning Costs

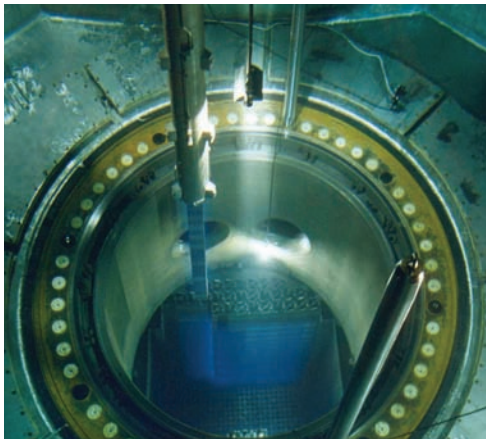
Total 2010 estimated decommissioning cost was \$58 billion based on survey responses. The decommissioning cost estimate has increased 38% from the 2000 Survey and 53% from the 1996 Survey. The annualized cost escalation rate for the 14-year period from 1996 to 2010 was approximately 3.1%.

The estimated costs shown below represent the greater of NRC-filing or site-specific costs provided by respondents. Based on individual survey responses, NRC costs were, on average, 71% of site-specific costs.



NRC Filing Data

Selected asset and cost data from publicly available Decommissioning Financial Assurance filings, as of December 31, 2010, were compared to survey data as a reasonableness check. Survey and NRC differences appear to result primarily from assets and costs attributable to non-radiological decommissioning and site-specific vs. CFR \$50.75 methodologies. Data tabulated below were estimated based on NRC filings.

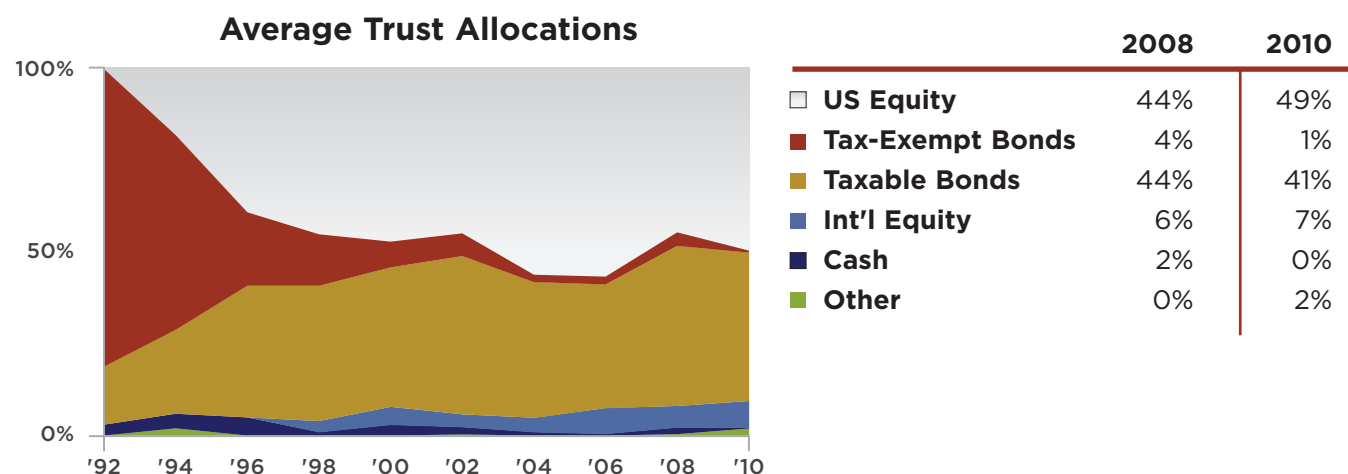


	NRC	
	Cost	Assets
Operational		
Investor-Owned Utilities	\$46.4B	\$38.7B
Non-Investor-Owned Utilities	\$8.9B	\$4.7B
TOTAL	\$55.3B	\$43.4B

Qualified NDT

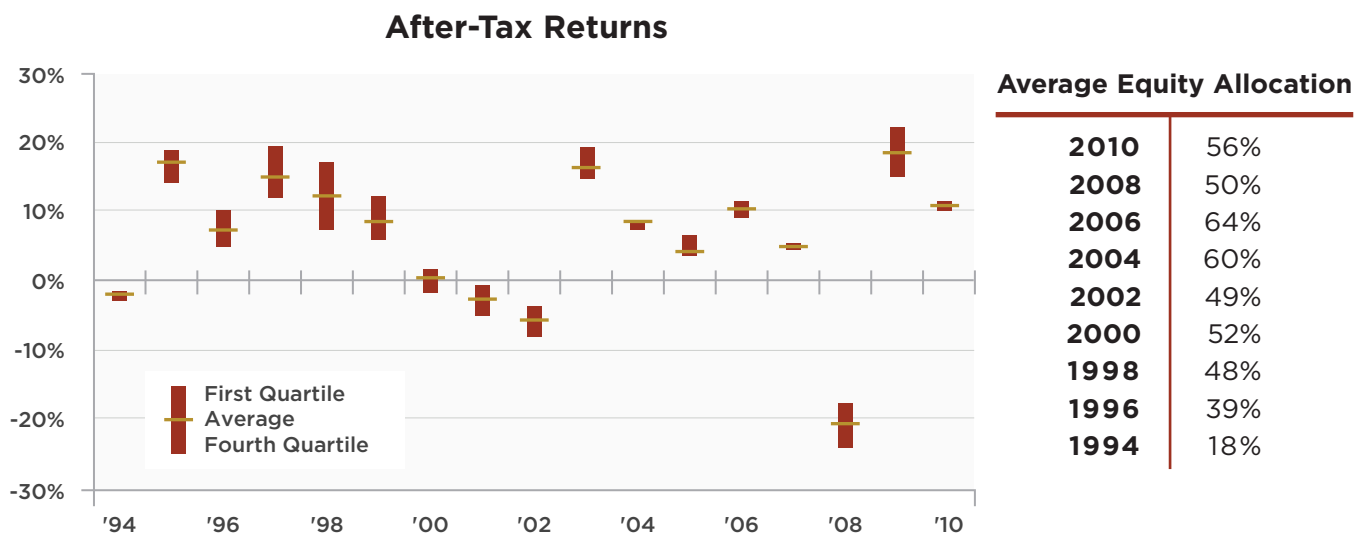
Historical Asset Allocation

The average Qualified Trust equity allocation increased to 56% in 2010 from 50% in 2008. The increase was largely due to strong equity markets over the 2-year period (50% total return for the US market, 59% total return (US\$) for Non-US markets). Nearly 20% of sponsors indicated an actual or target allocation to alternative asset strategies. For the first time since 1994, allocations to the “Other” category rose above 1%.



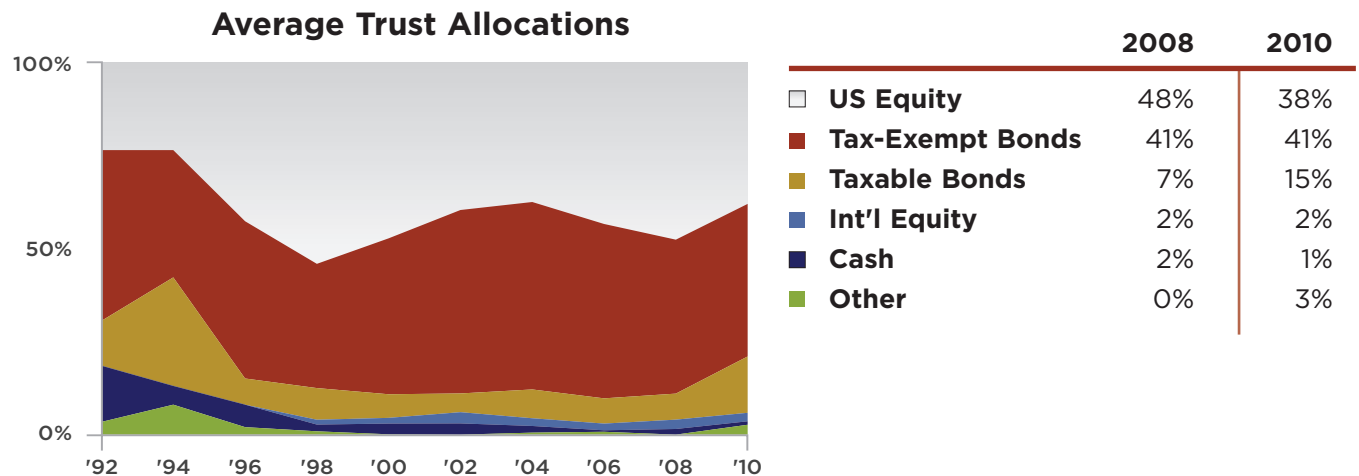
Historical After-Tax Returns

Equity markets rebounded from their near-lows at the end of 2008, resulting in strong Qualified Trust performance for 2009 and 2010. At year-end 2010, the average equity allocation was at its target level of 56%. The average trust return has been positive for 13 of the 17 years shown in the graph. The average annual after-tax return for the 17-year period was 6.3%.



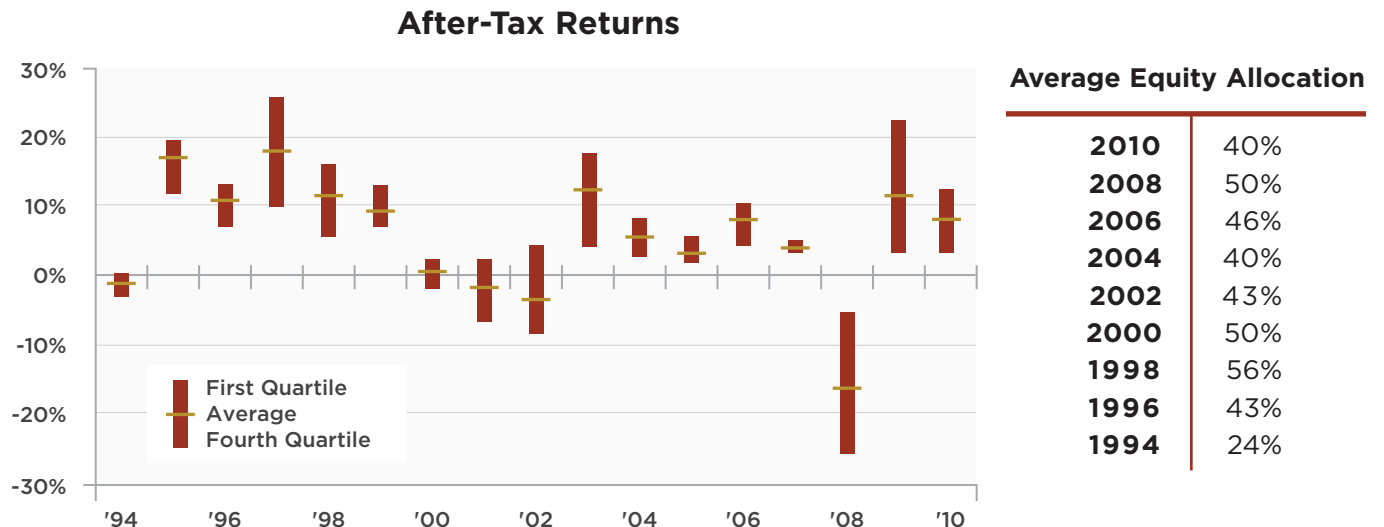
Historical Asset Allocation

Equity assets as a percentage of Non-Qualified Trusts showed a significant decline from the 2008 Survey, decreasing to 40% in this survey from 50% in the prior survey. The change in allocations resulted primarily from the pour-over of equity-dominated assets and asset reallocations into taxable bonds. Several sponsors also initiated allocations to alternative strategies, including middle market lending and other fixed income/credit related opportunities.



Historical After-Tax Returns

Following the financially tumultuous year of 2008, annualized pre-tax returns, as reported by the index providers, for the S&P 500 Index and Barclays Capital Full Municipal Bond Index over the past two years were 20.6% and 7.5%, respectively. The average annualized Non-Qualified Trust after-tax return for the past two years was 10.1%. Reported full-year, after-tax returns for 2009 were likely influenced by the timing of pour-over activities and their associated tax effects. The average annual after-tax return for the 17-year period was 6.0%.

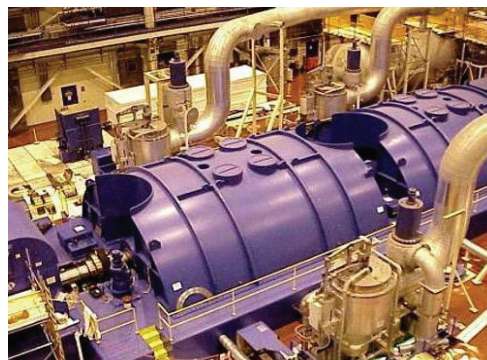


Total NDT

Historical Asset Allocation

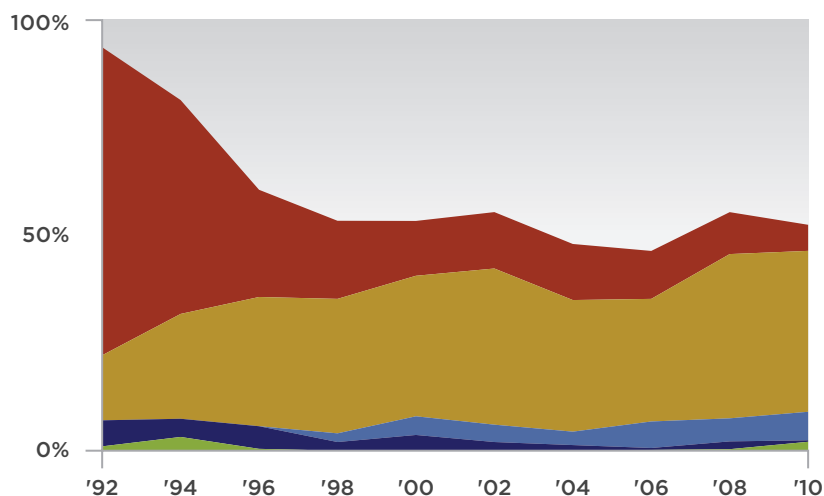
The graph below shows average actual allocations to major asset classes since 1992. The average US and international equity allocations have increased from the last survey, primarily due to strong equity markets over the past two years.

The average target equity allocation has declined slightly from its high of 60% in the 2004 / 2006 surveys. Several respondents initiated allocations to alternative asset strategies resulting in the 2% allocation to the "Other" asset class. For those that indicated an allocation to alternatives, the average target allocation was 13%, although due to the few responses and variability in allocations, the average may be skewed. The median allocation was 10%.



The most frequently mentioned asset classes being considered for future allocations were emerging markets, real estate, and absolute return strategies.

Average Trust Allocations



	2008	2010
US Equity	45%	48%
Tax-Exempt Bonds	10%	6%
Taxable Bonds	38%	37%
Int'l Equity	5%	7%
Cash	2%	0%
Other	0%	2%

Average Total Trust Equity Allocations

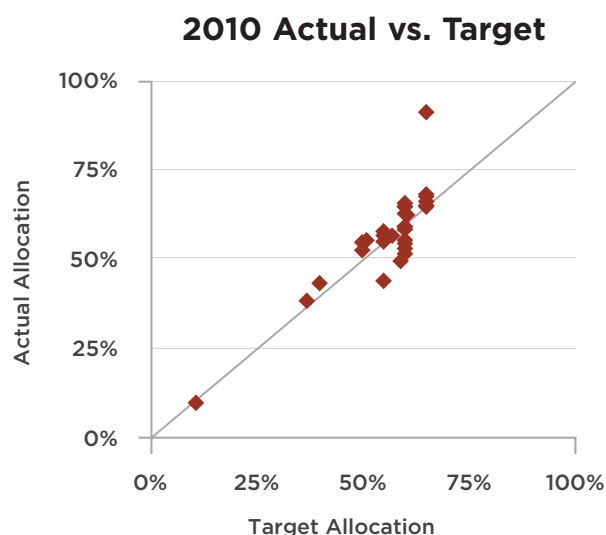
	1992	1994	1996	1998	2000	2002	2004	2006	2008	2010
Actual	7%	19%	40%	49%	51%	49%	56%	60%	50%	55%
Target	29%	44%	50%	55%	55%	55%	60%	60%	59%	56%

Asset Allocations

Equity Allocations

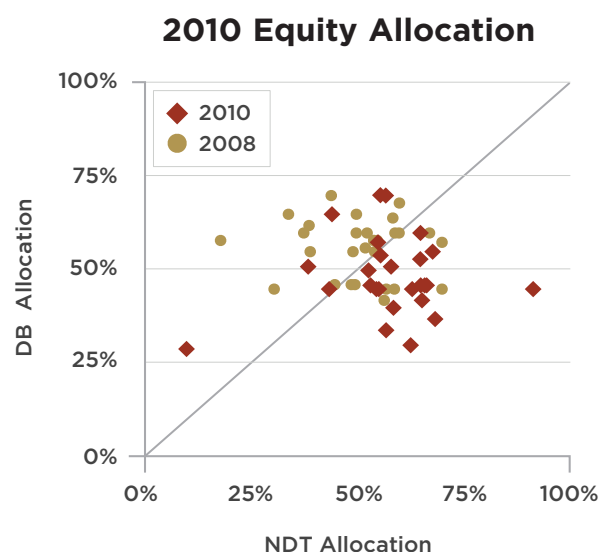
The chart at the right shows each trust's actual equity allocation relative to its target allocation for December 31, 2010. Observations below the diagonal reflect equity allocations which are below their targets. Observations above the diagonal reflect allocations which are above their targets.

For the 2010 Survey, the average actual equity allocation was only slightly below the average target equity allocation. Based on survey responses, the average overweight was +4% and the average underweight was -4%, while the maximum overweight was +26% and the maximum underweight was -11%.



NDT vs. Defined Benefit Plans

Survey respondents indicated that the average NDT had a much larger allocation to US equity than did the average DB plan. The chart at the right shows the relationship of each sponsor's NDT equity allocation relative to its Defined Benefit (DB) equity allocation. Observations above the diagonal indicate a larger equity allocation in the DB plan relative to the NDT. The average NDT allocation to US equity increased by three percent from the 2008 Survey, whereas the average DB allocation decreased by eight percent. Conversely, the allocation to fixed income declined by five percent for NDT and increased by seven percent for DB plans.



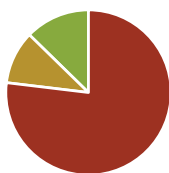
Asset Class	NTD	DB
US Equity	48%	32%
Int'l Equity	7%	16%
Fixed Income	43%	39%
Other	2%	13%
TOTAL	100%	100%

Equity

Style Allocations

The estimated total equity allocation was \$19.3 billion for Qualified Trusts and \$2.2 billion for Non-Qualified Trusts. Large cap styles continue to dominate equity allocations. There were no changes from the last survey in the number of respondents indicating the use of mid- or small-cap benchmarks. Style allocation variances resulted primarily from variances in relative market returns during 2008 and 2009. The S&P 500, S&P 400, S&P 600 and MSCI All World-Ex US (US\$) had total returns, as reported by the index providers, of 45.6%, 74.0%, 58.6%, and 58.6%, respectively for the two-year period ending December 31, 2010.

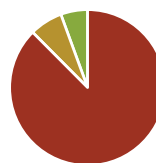
2010 Qualified Trusts



2008 2010

■ Large Cap	82%	77%
■ Mid/Small Cap	6%	10%
■ International	12%	13%

2010 Non-Qualified Trusts



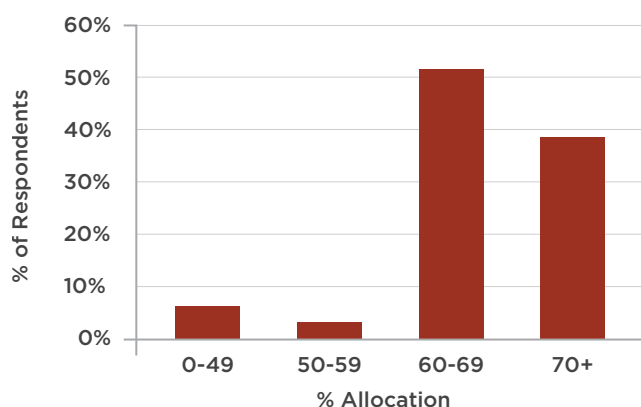
2008 2010

88%	87%
7%	7%
5%	6%

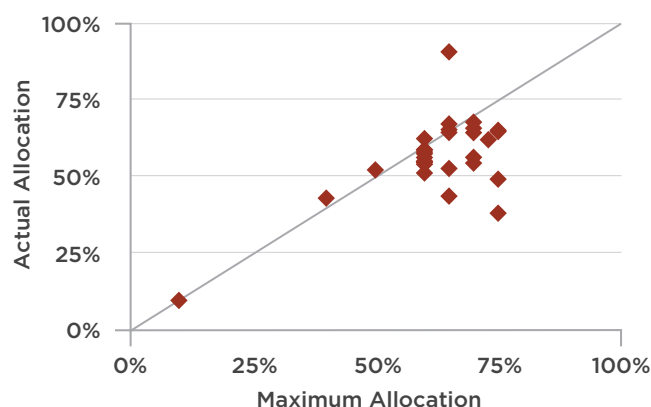
Maximum Allocations

The average policy maximum equity allocation declined to 62% in 2010 from 74% in 2008. The average actual equity allocation was approximately five percent below the average maximum equity allocation, compared to the last survey when the average equity allocation was 20% below. The significant reduction in the magnitude of the underweight relative to target likely resulted from the sharp equity rally since 2008.

Maximum Equity Allocation



Actual vs. Maximum



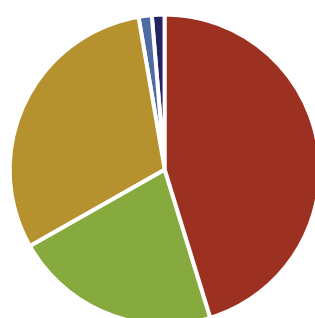
Sector Allocations

The estimated total fixed income allocation was \$14.4 billion for Qualified Trusts and \$3.0 billion for Non-Qualified Trusts.

Broad-market aggregate benchmarks were used by 60% of respondents while 40% used government/credit benchmarks. The Qualified Trust sector allocations in the chart below reflect the mix of fixed income benchmarks.

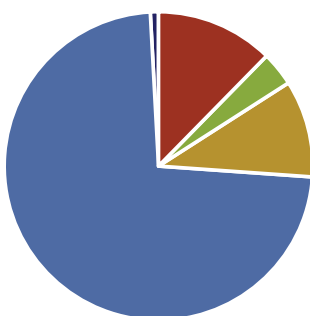
Non-Qualified sector allocations saw a shift toward corporate securities and away from municipal securities, as compared to the 2008 survey.

2010 Qualified Trusts



	Sector Allocation		
	2010	Barclays Capital Aggregate Index	2-yr Annualized Sector Return
Government	45%	41%	1.6%
Mortgage	22%	35%	6.8%
Corporate	31%	24%	13.7%
Tax-Exempt	1%		7.5%
Other	1%		

2010 Non-Qualified Trusts



	Sector Allocation		
	2010	Full Municipal Bond Index	2-yr Annualized Sector Return
Government	12%		1.6%
Mortgage	4%		6.8%
Corporate	10%		13.7%
Tax-Exempt	73%	100%	7.5%
Other	1%		

Emerging market debt, high yield, and TIPS were the most frequently mentioned fixed income sectors under consideration by survey respondents.

Asset Return Assumptions

After-Tax Return Assumptions: Qualified Trusts

The Qualified Trust average after-tax return assumption has remained steady for the last three surveys, which is still below peak levels of the late 1990s. Based on each respondent's target asset allocations and expected returns for each asset class, the median after-tax return assumption was 6.5% and the average after-tax return assumption was 6.3%.

**Average After-Tax
Return Assumption**

2010	6.3%
2008	6.3%
2006	6.3%
2004	6.6%
2002	6.5%
2000	6.3%
1998	6.7%
1996	6.5%
1994	6.4%
1992	6.1%

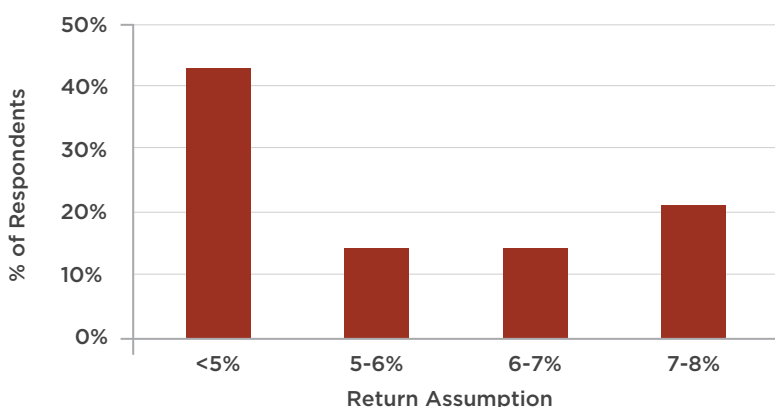
**Qualified Trust After-Tax
Return Assumption**



After-Tax Return Assumptions: Non-Qualified Trusts

The Non-Qualified Trust average after-tax return assumption increased slightly (10 basis points) from the last survey, although it has been fairly constant for the last four surveys. Based on each respondent's target asset allocations and expected returns for each asset class, the median after-tax return assumption was 5.5% and the average after-tax return assumption was 5.4%. Non-Qualified Trust average and median expected after-tax returns were about 100 basis points lower than their respective Qualified Trust expected returns, likely due to higher tax rates and lower equity allocations.

**Non-Qualified Trust After-Tax
Return Assumption**



**Average After-Tax
Return Assumption**

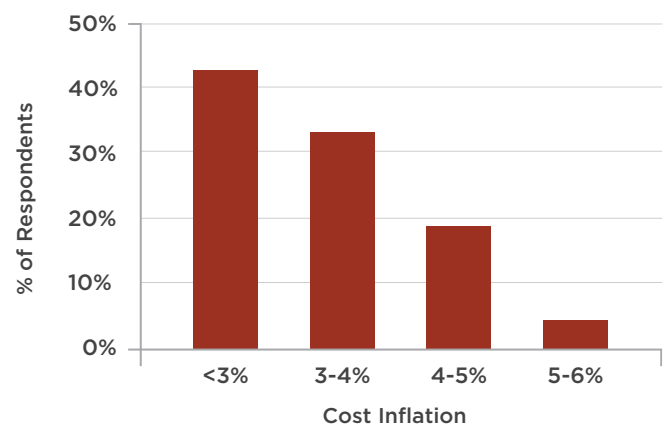
2010	5.4%
2008	5.3%
2006	5.4%
2004	5.5%
2002	5.9%
2000	5.8%
1998	6.2%
1996	6.2%
1994	6.0%
1992	6.6%

Cost Inflation Assumptions

Inflation assumptions have a consequential affect on estimating decommissioning liabilities and determining implied after-tax real rates of return. The average composite cost inflation assumption declined by 40 basis points from the 2008 Survey, even as the CPI 10-yr forecast increased by 10 basis points.

Cost Inflation Assumptions

	Average Response	CPI 10-yr Forecast*
2010	3.2%	2.5%
2008	3.6%	2.4%
2006	4.0%	2.5%
2004	4.2%	2.5%
2002	4.7%	2.5%
2000	4.4%	2.5%
1998	4.3%	2.5%
1996	4.7%	3.0%
1994	5.0%	3.5%
1992	5.2%	3.6%

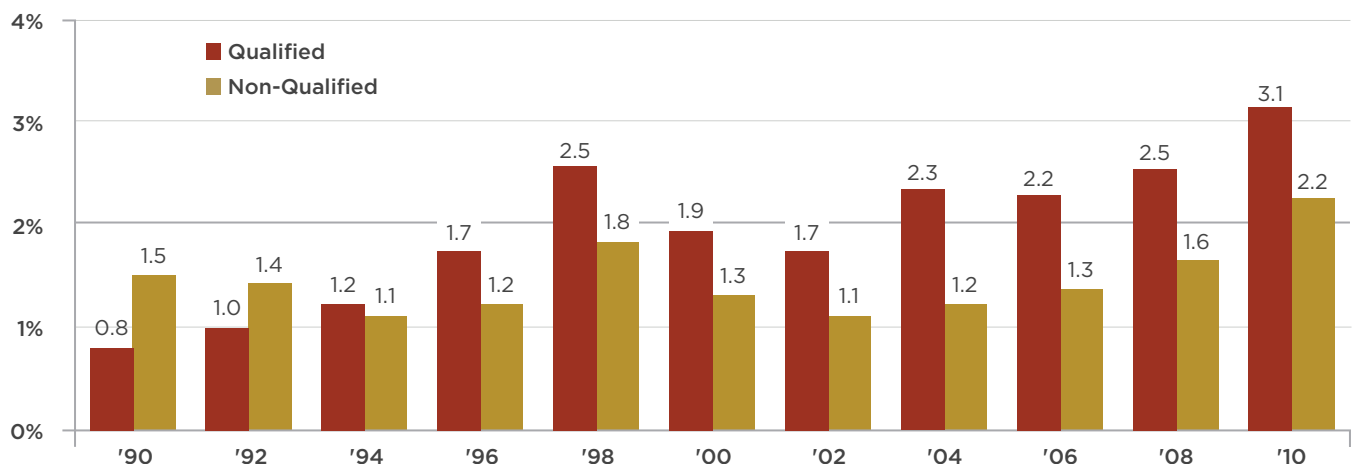


* Livingston Survey, Federal Reserve Bank of Philadelphia.

Implied After-Tax Real Return Assumptions

Implied after-tax real return assumptions were calculated based on each respondent's after-tax return and cost inflation assumptions. The decline in expected inflation had a major impact on the increase in the average implied after-tax real return. The horizontal line at 2% represents the allowable real return assumption permitted in 10 CFR §50.75 (e) (1) (ii). Weighting the 2010 Qualified and Non-Qualified Trusts' implied after-tax returns by their market values as shown on page two yields a total NDT average implied after-tax real return assumption of 2.9%.

Implied After-Tax Real Return



NDT Management



Asset Liability Management Studies (ALM)

Asset liability studies help sponsors evaluate the funding adequacy of their decommissioning funds and help determine suitable asset allocations. Most respondents indicated their asset allocation studies are performed by outside consultants and over half indicated they would undertake an asset liability study within the next two years. Almost half of respondents indicated a change to their asset allocation in the last two years. Reduced trust risk and desire for more diversification were the most frequently mentioned reasons leading to asset allocation changes. Forty-six percent of respondents said they considered asset-liability matching in conjunction with their ALM analyses and 30% said they considered dynamic asset allocation. The NRC has expressed interest in evaluating the possibility of utilizing simulation techniques when evaluating the financial assurance of decommissioning funds.

Alternative/Absolute Return Strategies (ARS)

Almost half of the respondents are considering or have already funded allocations to alternative investment strategies. The average target ARS allocation for those considering and who have already funded was 9%. Return diversification and low volatility were the primary motivations for considering ARS. Half of those interested would fund an ARS allocation exclusively from either fixed income or equity assets; the other respondents indicated ARS would be funded from multiple asset classes.

Pour-over

The transfer of Non-Qualified Trust assets to a Qualified Trust continues to be an area of activity for trust sponsors. Almost half of respondents poured over Non-Qualified assets in the last two years. Of those that poured over, 50% indicated they poured over solely by transferring securities with their embedded bases; the remaining converted securities to cash prior to pour over, or selectively poured over cash and securities.

Derivatives

There has been little change in the use, or intended use, of derivatives for the last several surveys. Approximately half of respondents are permitted to use derivatives in their Nuclear Decommissioning Trusts. Of those permitted, most have used derivatives over the past two years, and of those respondents currently utilizing derivatives, swaps were the most frequently used derivative instrument.

Securities Lending

The withdrawal from securities lending programs, likely due to the market disruptions of 2008, continues. Eighty-seven percent of respondents indicated they did not participate in securities lending or have discontinued participation. In the 2008 Survey results, 59% did not participate in securities lending.



All photos courtesy of NukeWorker.com, the US Nuclear Regulatory Commission & the Nuclear Energy Institute.

U.S. Operating Commercial Nuclear Power Reactors



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NISA is an employee owned investment management firm located in St. Louis, Missouri. NISA has \$69 billion* in assets under management for 132 institutional clients, including NDTs, VEBA Trusts, corporate defined benefit and defined contribution plans, endowments, and foundations. As of June 30, 2011 NISA managed more than \$9.1 billion in NDT fixed income and equity portfolios for 17 utilities.

Please contact Paul Jones if you would like additional copies of this report, or for more information regarding our NDT management services. The survey is also available on our website at www.nisanet.com.

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*Assets under management are as of June 30, 2011 and include \$5.2 billion in stable value oversight for externally managed bond portfolios.



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