Exhibit No.:	*1088*
Issues:	*Economic & Legal Rationale for Regulation; Historical Economic Conditions; Economic Projections; Business Operations of Aquila, Inc.; Capital Structure & Embedded Costs; Cost of Equity; DCF Model; and Rate of Return for MPS*
Witness:	*David Murray*
Sponsoring Party:	*MoPSC Staff*
Type of Exhibit:	*Direct Testimony*
Case No.:	*ER-2004-0034*
Date Testimony Prepared:	*December 9, 2003*
as Modified:	*February 27, 2004*

MISSOURI PUBLIC SERVICE COMMISSION

UTILITY SERVICES DIVISION

DIRECT TESTIMONY

OF

DAVID MURRAY

AQUILA, INC.
d/b/a AQUILA NETWORKS-MPS-ELECTRIC

CASE NO. ER-2004-0034

Jefferson City, Missouri
December 2003

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the matter of Aquila, Inc., d/b/a Aquila Networks-L&P and Aquila Networks-MPS to implement a general rate increase in electricity.	))))	Case No. ER-2004-0034

AFFIDAVIT OF DAVID MURRAY

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

David Murray, of lawful age, on his oath states: that he has participated in the preparation of the following direct testimony as modified on February 27, 2004, in question and answer form, consisting of 33 pages to be presented in the above case; that the answers in the following direct testimony as modified on February 27, 2004, were given by him; that he has knowledge of the matters set forth in such answers; and that such matters are true and correct to the best of his knowledge and belief.

David Murray

Subscribed and sworn to before me this 26th day of February 2004.

D SUZIE MANKIN
Notary Public - Notary Seal
STATE OF MISSOURI
COLE COUNTY
MY COMMISSION EXP. JUNE 21,2004

Notary Public

TABLE OF CONTENTS

OF DIRECT TESTIMONY OF

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OF

DAVID MURRAY

AQUILA, INC.

d/b/a AQUILA NETWORKS MPS-ELECTRIC

CASE NO. ER-2004-0034

Q. Please state your name.

A. My name is David Murray.

Q. Please state your business address.

A. My business address is P.O. Box 360, Jefferson City, Missouri, 65102.

Q. What is your present occupation?

A. I am employed as a Financial Analyst for the Missouri Public Service Commission (Commission). I accepted this position in June 2000.

Q. Were you employed before you joined the Commission's Staff (Staff)?

A. Yes, I was employed by the Missouri Department of Insurance in a regulatory position.

Q. What is your educational background?

A. In May 1995, I earned a Bachelor of Science degree in Business Administration with an emphasis in Finance and Banking, and Real Estate from the University of Missouri-Columbia. I should complete a Masters in Business Administration from Lincoln University by December 2003.

Q. Have you filed testimony in other cases before this Commission?

A. Yes. I filed testimony in the following cases:

- TR-2001-344 Northeast Missouri Rural Telephone Company
- TC-2001-402 Ozark Telephone Company
- TT-2001-328 Oregon Farmers Mutual Telephone Company
- TC-2002-1076 BPS Telephone Company
- GR-2001-292 Southern Union Company d/b/a Missouri Gas Energy
- ER-2001-672 UtiliCorp United, Inc. d/b/a Missouri Public Service
- ER-2002-424 The Empire District Electric Company
- GM-2003-0238 Southern Union Company d/b/a Missouri Gas Energy
- WR-2003-0500 Missouri-American Water Company.

Q. Have you made recommendations in any other cases before this Commission?

A. Yes, I have made recommendations on finance, merger and acquisition cases before this Commission.

Q. What is the purpose of your testimony in this case?

A. My testimony is presented to recommend to the Commission a fair and reasonable rate of return for Aquila, Inc. d/b/a Aquila Networks MPS (MPS) rate base.

Q. Have you prepared any schedules to your analysis of the cost of capital for MPS?

A. Yes. I am sponsoring a study entitled "An Analysis of the Cost of Capital for Aquila, Inc. d/b/a Aquila Networks MPS Case No. ER-2004-0034" consisting of 23 schedules which are attached to this direct testimony (see Schedule 1).

Q. What do you conclude is the cost of capital for MPS?

A. The cost of capital for MPS is in the range of 7.97 to 8.32 percent.

Economic and Legal Rationale for Regulation

Q. Why are the prices charged to customers by utilities such as MPS regulated?

A. A primary purpose of price regulation is to restrain the exercise of monopoly power. Monopoly power represents the ability to charge excessive or unduly discriminatory prices. Monopoly power may arise from the presence of economies of scale and/or from the granting of a monopoly franchise.

For services that operate efficiently and have the ability to achieve economies of scale, a monopoly is the most efficient form of market organization. Utility companies can supply service at lower costs if the duplication of facilities by competitors is avoided. This allows the use of larger and more efficient equipment and results in lower per unit costs. For instance, it may cost more to have two or more competing companies maintaining electric utility distribution systems and providing competing residential services to one household. This situation could result in price wars and lead to unsatisfactory and perhaps irregular service. For these reasons, exclusive rights may be granted to a single utility to provide service to a given territory. This also creates a more stable environment for operating the utility company. Utility regulation acts as a substitute for the economic control of market competition and allows the consumer to receive adequate utility service at a reasonable price.

Electric utility providers such as MPS provide electric utility services essentially under a monopoly franchise. Therefore, it is clear that MPS have monopoly power.

Another purpose of price regulation is to provide the utility company with an opportunity to earn a fair return on its capital, particularly on investments made as a result of a monopoly franchise.

Q. Please describe your understanding of the legal basis you must use when determining a fair and reasonable return for a public utility.

A. Several landmark decisions by the U.S. Supreme Court provide the legal framework for regulation and for what constitutes a fair and reasonable rate of return for a public utility. Listed below are some of the cases:

1. Munn v. People of Illinois (1877);
2. Bluefield Water Works and Improvement Company (1923);
3. Natural Gas Pipeline Company of America (1942); and
4. Hope Natural Gas Company (1944).

In the case of Munn v. People of Illinois, 94 U.S. 113 (1877), the Court found that:

> . . . when private property is "affected with a public interest, it ceases to be *juris privati* only" . . . . Property does become clothed with a public interest when used in a manner to make it of public consequence, and affect the community at large. When, therefore, one devotes his property to a use in which the public has an interest, he, in effect, grants to the public an interest in that use, and must submit to be controlled by the public for the common good, to the extent of the interest he has thus created. Id at 126.

The Munn decision is important because it states the basis for regulation of both utility and non-utility industries.

In the case of Bluefield Water Works and Improvement Company v. Public Service Commission of the State of West Virginia, 262 U.S. 679 (1923), the Supreme Court ruled that a fair return would be:

1. A return "generally being made at the same time" in that "general part of the country";
2. A return achieved by other companies with "corresponding risks and uncertainties"; and
3. A return "sufficient to assure confidence in the financial soundness of the utility".

The Court specifically stated:

> A public utility is entitled to such rates as will permit it to earn a return on the value of the property which it employs for the convenience of the public equal to that generally being made at the same time and in the same general part of the country on investments in other business undertakings which are attended by corresponding risks and uncertainties; but it has no constitutional right to profits such as are realized or anticipated in highly profitable enterprises or speculative ventures. The return should be reasonably sufficient to assure confidence in the financial soundness of the utility and should be adequate, under efficient and economical management, to maintain and support its credit and enable it to raise the money necessary for the proper discharge of its public duties. A rate of return may be reasonable at one time and become too high or too low by changes affecting opportunities for investment, the money market and business conditions generally. Id. at 692-3.

In Federal Power Commission et al. v. Natural Gas Pipeline Company of America et al., 315 U.S. 575 (1942), the Court decided that:

> The Constitution does not bind rate-making bodies to the service of any single formula or combination of formulas . . . . If the Commission's order, as applied to the facts before it and viewed in its entirety, produces no arbitrary result, our inquiry is at an end. Id. at 586.

The U.S. Supreme Court also discussed the reasonableness of a return for a utility in the case of Federal Power Commission et al. v. Hope Natural Gas Company, 320 U.S. 591 (1944). The Court stated that:

> The rate-making process . . . , i.e., the fixing of "just and reasonable" rates, involves a balancing of the investor and the consumer interests. Thus we stated . . . that "regulation does not insure that the business shall produce net revenues" . . . it is important that there be enough revenue not only for operating expenses but also for the capital costs of the business. These include service on the debt and dividends on the stock . . . . By that standard the return to the equity owner should be commensurate with returns on investments in other enterprises having corresponding risks. That return, moreover, should be sufficient to assure confidence in the financial integrity of the enterprise, so as to maintain its credit and to attract capital. Id. at 603.

The Hope case restates the concept of comparable returns to include those achieved by any other enterprises that have "corresponding risks." The Supreme Court also noted in this case that regulation does not guarantee profits to a utility company.

A more recent case heard by the Supreme Court of Pennsylvania discusses the Hope case decision as it relates to balancing the interests of the investors and the consumers. The Supreme Court of Pennsylvania stated that:

> We do not believe, however, . . . that the end result of a rate-making body's adjudication *must* be the setting of rates at a level that will, in any given case, guarantee the continued financial integrity of the utility concerned . . . . In cases where the balancing of consumer interests against the interests of investors causes rates to be set at a "just and reasonable" level which is insufficient to ensure the continued financial integrity of the utility, it may simply be said that the utility has encountered one of the risks that imperil any business enterprise, namely the risk of financial failure. Pennsylvania Electric Company, et al. v. Pennsylvania Public Utility Commission, 502 A.2d 130, 133-34 (1985), cert. denied, 476 U.S. 1137 (1986).

I included the Pennsylvania Electric Company case in my testimony to illustrate a point, which is simply this: captive ratepayers of public utilities should not be forced to bear the brunt of management decisions that result in unnecessarily higher costs. It should be noted that I do not believe that utility companies should be casually subjected to risk of financial failure in a rate case proceeding. However, in the case of inefficient management, I do not believe it would always be appropriate for a regulatory agency to provide sufficient funds for management to continue operations, no matter what the costs are to the ratepayers.

Through these and other court decisions, it has generally been recognized that public utilities can operate more efficiently when they operate as monopolies. It has also been recognized that regulation is required to offset the lack of competition and maintain prices at a reasonable level. It is the regulatory agency's duty to determine a fair rate of return and the

appropriate revenue requirement for the utility, while maintaining reasonable prices for the public consumer.

The courts today still believe that a fair return on common equity should be similar to the return for a business with similar risks, but not as high as a highly profitable or speculative venture requires. The authorized return should provide a fair and reasonable return to the investors of the company, while ensuring that excessive earnings do not result from the utility's monopolistic powers. However, this fair and reasonable rate does not necessarily guarantee revenues or the continued financial integrity of the utility.

It should be noted that the courts have determined that a reasonable return may vary over time as economic and business conditions change. Therefore, the past, present and projected economic and business conditions must be analyzed in order to calculate a fair and reasonable rate of return.

Historical Economic Conditions

Q. Please discuss the relevant historical economic conditions in which MPS have operated?

A. One of the most commonly accepted indicators of economic conditions is the discount rate set by the Federal Reserve Board (the Federal Reserve). The Federal Reserve tries to achieve its monetary policy objectives by controlling the discount rate (the interest rate charged by the Federal Reserve for loans of reserves to depository institutions) and the Federal (Fed) Funds Rate (the overnight lending rate between banks). However, recently the Fed Funds Rate has become the primary means for the Federal Reserve to achieve its monetary policy and the discount rate has become more of a symbolic interest rate. At the end of 1982, the U.S. economy was in the early stages of an economic expansion, following the longest post-World War II recession. This economic expansion began when the Federal

Reserve reduced the discount rate seven times in the second half of 1982 in an attempt to stimulate the economy. This reduction in the discount rate led to a reduction in the prime interest rate (the rate charged by banks on short-term loans to borrowers with high credit ratings) from 16.50 percent in June 1982, to 11.50 percent in December 1982. The economic expansion continued for approximately eight years until July 1990, when the economy entered into a recession.

In December 1990, the Federal Reserve responded to the slumping economy by lowering the discount rate to 6.50 percent (see Schedules 2-1 and 2-2). Over the next year-and-a-half, the Federal Reserve lowered the discount rate another six times to a low of 3.00 percent, which had the effect of lowering the prime interest rate to 6.00 percent (see Schedules 3-1 and 3-2).

In 1993, perhaps the most important factor for the U.S. economy was the passage of the North American Free Trade Agreement (NAFTA). NAFTA created a free trade zone consisting of the United States, Canada and Mexico. The rate of economic growth for the fourth quarter of 1993 was one the Federal Reserve believed could not be sustained without experiencing higher inflation. In the first quarter of 1994, the Federal Reserve took steps to try to restrict the economy by increasing interest rates. As a result, on March 24, 1994, the prime interest rate increased to 6.25 percent. On April 18, 1994, the Federal Reserve announced its intention to raise its targeted interest rates, which resulted in the prime interest rate being increased to 6.75 percent. The Federal Reserve took action on May 17, 1994, by raising the discount rate to 3.50 percent. The Federal Reserve took three additional restrictive monetary actions with the last occurring on February 1, 1995. These actions

raised the discount rate to 5.25 percent, and in turn, banks raised the prime interest rate to 9.00 percent.

The Federal Reserve then reversed its policy in late 1995 by lowering its target for the Fed Funds Rate by 0.25 percentage points on two different occasions. This had the effect of lowering the prime interest rate to 8.50 percent. On January 31, 1996, the Federal Reserve lowered the discount rate to a rate of 5 percent.

The actions of the Federal Reserve from 1996 through 2000 were primarily focused on keeping the level of inflation under control, and it was successful. The inflation rate, as measured by the *Consumer Price Index - All Urban Consumers* (CPI), was at a high of 3.70 percent in March 2000. The increase in CPI stood at 2.30 percent for the period ending October 31, 2003 (see Schedules 4-1 and 4-2). Although inflation has not been a problem recently, the unemployment rate has shown some signs that the job market has loosened, meaning unemployment has increased. While not as high as the January 1993 level of 7.3 percent, the unemployment rate now stands at 6.1 percent as of September 30, 2003 (see Schedule 6).

The combination of low inflation and low unemployment had led to a prosperous economy, until recently, as evidenced by the real gross domestic product (GDP) of the United States. Over the period of 1993 through the end of 2000, real GDP had increased every quarter. However, GDP data for the first three quarters of 2001 indicate there was a contraction in the economy during these three quarters. This contraction of GDP for more than two quarters in a row meets the textbook definition of a recession. According to the National Bureau of Economic Research, the recession began in March of 2001 and ended eight months later. Since the recession ended, GDP has been low for the most part from

quarter-to-quarter, except for the first and third quarters of 2002 and the most recent quarter in 2003 when it grew by 7.20 percent (see Schedule 6). The stock market, as measured by the Dow Jones Composite Index, has increased by 12.73 percent between August 7, 1997 and November 13, 2003, while the Dow Jones Industrial Index has increased by 20.15 percent over that same time frame. The stock market has decreased 22.42 percent as measured by The Value Line Geometric Averages Composite Index from August 7, 1997 through November 13, 2003. The Value Line Geometric Averages Composite Index currently consists of an equally weighted geometric average of 1671 companies as compared to the Dow Jones Composite Index, which consists of a price-weighted arithmetic average of only 65 companies.

After raising the Fed Funds Rate six times in 1999 and 2000 to hold down inflation in a rapidly growing economy, Federal Reserve policy-makers began expressing concern about a slowdown in December 2000. On January 3, 2001, the Federal Open Market Committee lowered the Fed Funds Rate by 50 basis points to 6 percent. In a related action, the Board of Governors approved a decrease in the discount rate to 5.75 percent. These actions were taken in light of further weakening of sales and production, and in the context of lower consumer confidence, tight conditions in some segments of financial markets, slowing of real GDP and high energy prices sapping household and business purchasing power. On January 31, 2001, the Federal Reserve again lowered the Fed Funds Rate by 50 basis points to 5.5 percent in an attempt to provide lower rates for many business and consumer loans. At the same time, the discount rate was also lowered by 50 basis points to 5 percent (see Schedule 2-1). In cutting its benchmark rate by a full point in the first month of 2001, the Federal Reserve had taken its most aggressive action to boost the economy since

December 1991. The Federal Reserve justified its actions by citing eroding consumer and business confidence and rising energy costs.

The Federal Reserve cut the Fed Funds Rate a total of eleven times in 2001 with the last rate cut occurring on December 11, 2001, when it lowered the Fed Funds Rate to 1.75 percent. The Federal Reserve again left the Fed Funds Rate unchanged at its March 19, 2002 meeting stating that "the economy is expanding at a significant pace." [Source: MSNBC, "Fed Holds Interest Rate Steady," March 19, 2002, http://www.msnbc.com/news/725818?0dm=C2BHB].

The Federal Reserve announced on May 7, 2002 that, "it would wait for stronger final demand before raising interest rates." The Federal Reserve also noted that inflationary pressures remained subdued, in part because of excellent productivity gains. Therefore, as of May 7, 2002, the Fed Funds Rate remained at 1.75 percent with the discount rate remaining at 1.25 percent. However, on November 6, 2002, the Federal Reserve lowered the Fed Funds Rate to 1.25 percent and kept it at this level until June 25, 2003, when it decided to lower the rate to 1.00 percent, a quarter of a percentage point less than some analysts had expected.

On August 12, 2003, the Federal Reserve kept its interest rate target at a 45-year low of 1 percent, while making an unprecedented prediction that it will stay near that level for some time to come. The Fed also went on to say that the risks to growth in the next few quarters are balanced, but the risk of "undesirably low" price inflation outweighed the risk of inflation rising. The Fed indicated that the risk of falling inflation would be its "predominant concern" (*Wall Street Journal,* p. A2, August 13, 2003). However, although the Fed has made a commitment to keeping the Fed Funds Rate at its current level for some time to

come, Thirty-Year U.S. Treasury Bonds have increased to 5.16 percent as of October 2003 from a low of 4.37 percent as of June 2003 (see Schedule 5-2).

In light of the above interest rate activity, it is important to reflect on the results of the major stock market indexes in the past year. Based on opening and closing quotes from *Wall Street City* from November 26, 2002 through November 26, 2003, the Dow Jones Industrial Average rose 12.53 percent, the S&P 500 rose 15.39 percent and the NASDAQ rose 34.52 percent.

These economic changes have resulted in cost of capital changes for utilities and are closely reflected in the yields on public utility bonds and yields of Thirty-Year U.S. Treasury Bonds (see Schedule 5-1 and 5-2). Schedule 5-3 shows how closely the Mergent's "Public Utility Bond Yields" have followed the yields of Thirty-Year U.S. Treasury Bonds during the period from 1988 to the present. The average spread for this period between these two composite indices has been 139 basis points, with the spread ranging from a low of 80 basis points to a high of 250 basis points (see Schedule 5-4). These spread parameters can be utilized with numerous published forecasts of Thirty-Year U.S. Treasury Bond yields to estimate future long-term debt costs for utility companies.

Economic Projections

Q. What are the inflationary expectations for the remainder of 2003 through 2006?

A. The latest inflation rate, as measured by the *Consumer Price Index-All Urban Consumers* (CPI), was 2.30 percent for the 12-months ended October 31, 2003. *The Value Line Investment Survey: Selection & Opinion*, August 29, 2003, predicts inflation to be 1.9 percent for 2003, 2.0 percent for 2004 and 2.1 percent for 2005. The Congressional Budget Office, *The Budget and Economic Outlook: Fiscal Years 2003-2013*, issued

January 2003, states that inflation is expected to be 2.3 percent for 2003, 1.9 percent for 2004 and 2.4 percent for 2005 (see Schedule 6).

Q. What are interest rate forecasts for 2003, 2004 and 2005?

A. Short-term interest rates, those measured by Three-Month U.S. Treasury Bills, are expected to be 1.1 percent in 2003, 1.6 percent in 2004 and 2.0 percent in 2005 according to Value Line's predictions. Value Line expects long-term interest rates, those measured by the Thirty-Year U.S. Treasury Bond, to average 5.1 percent in 2003, 5.6 percent in 2004 and 6.0 percent in 2005.

The current rate for the period ending September 1, 2003 is .96 percent for 3-month T-Bills, as noted on the Federal Reserve website, http://www.stls.frb.org/fred/data/rates.html. The current rate for the period ending October 16, 2003 is 5.16 percent for 30-Year U.S. Treasury Bonds as noted on Investopedia's website, http://www.investopedia.com.

Q. What are the growth expectations for real Gross Domestic Product (GDP) in the future?

A. GDP is a benchmark utilized by the Commerce Department to measure economic growth within the United States' borders. Real GDP is measured by the actual Gross Domestic Product, adjusted for inflation. Value Line stated that real GDP growth is expected to increase by 2.3 percent in 2003, 3.7 percent in 2004 and 3.7 percent in 2005. The Congressional Budget Office, *The Budget and Economic Outlook: Fiscal Years 2003-2013*, stated that real GDP is expected to increase by 2.2 percent in 2003, 3.8 percent in 2004 and 3.5 percent in 2005 (see Schedule 6).

Q. Please summarize the expectations of the economic conditions for the next few years.

A. In summary, when combining the previously mentioned sources, inflation is expected to be in the range of 1.9 to 2.4 percent, increase in real GDP in the range of 2.2 to 3.8 percent and long-term interest rates are expected to range from 5.1 to 6.0 percent.

The Value Line Investment Survey: Selection & Opinion, November 31, 2003, states that:

> **There are very few clouds on the economic horizon as we approach the two-thirds mark of the fourth quarter.** Most of the economy's key sectors are responding very well, with industrial production, U.S. exports, retail spending (excluding autos), and employment, for example, all posting anywhere from modest to solid gains after selective weakness early in the year. Further, many companies, upon issuing their recent quarterly earnings statements, indicated that they had a strong book of new business going forward. As such...
>
> **We think the gross domestic product will rise by around 4% in the current quarter and maintain that healthy pace in 2004.** True, that would be a step back from the third quarter, when growth had topped 7%. But that eye-catching performance was helped by the effect of the Bush Administration's retroactive tax cut, which was implemented during the summer. Moreover, this projected rate of business growth is materially greater than appeared likely just a few months ago, when both capital spending and employment were still faltering.
>
> **For now, we do not believe this solid rate of business activity will fan the fires of inflation.** Although the rate of job growth is increasing, the gains aren't sufficient to cause wages and benefits to rise sharply. In addition, productivity is surging, which is also helping to keep inflation at bay. Then, too, raw materials are still in plentiful supply and there is enough industrial capacity around to avoid most production bottlenecks, in our opinion.
>
> **As such, we expect the Federal Reserve to proceed slowly on the interest-rate front.** Overall, we think borrowing costs will move higher in 2004, but we do not think this uptrend will commence until the year is well under way and the jobless rate starts to decline. Rates should then only edge modestly higher, unless there is an unexpected jump in inflation.
>
> **The stock market, though, has not been proceeding slowly,** with the leading indexes having recently risen to their best levels in more than a

> year. However, this showing, which has been interrupted by only brief bouts of profit taking, has left equities a little overextended.

S&P's Chief Technical Analyst, Mark Arbeter, states the following in the November 19, 2003 issue of *The Outlook*:

> For the 10 years ended 1999, the S&P 500 advanced more than 315%. But from the end of 1999 through last year, the "500" tumbled more than 40%. Even though 2003 appears likely to end with a gain, stock investors could well experience a below-average decade.
>
> In terms of performance, the 1990s were the best decade in modern stock market history. On average, the S&P 500 gained 16.13% a year during the boom period. Contrast that with what investors have seen since 2000. The average annual loss for the first three complete years of this decade has been 15.52%. Standard & Poor's estimates that the "500" will end 2003 at 1085 for a gain of 23.32%. If the market hits that target, the average annual loss for four years would still be 5.81%.
>
> Could this turn out to be the worst decade for stocks in the history of the S&P 500? That infamous record currently is held by the 1930s, when stocks advanced a meager 0.04% a year. Assuming year end 2003 at 1085, the "500" would have to gain 3.94%, on average, for the remaining six years of the decade to match the performance of the 1930s. We think that the market is likely to do significantly better and that the Depression-era record for worst decade will probably stand.
>
> The 1970s saw only a 3.2% annual gain in stocks. To simply match that performance, the market will have to rise 9.2% annually for the final six years of this decade if the index closes at 1085 this year.
>
> Although that's possible, it is less probable, given our projections for modest GDP growth and inflation over the next several years. The upshot is that everyone, especially baby boomers set to begin retiring soon, will have to save more.
>
> Alternative investment choices in bonds and cash equivalents look unappealing. We continue to recommend keeping 65% of your investment nest egg in stocks.

Business Operations of Aquila, Inc.

Q. Please describe Aquila, Inc.'s (Aquila) business operations.

A. Aquila's 2002 Annual Report provides a good description of Aquila's business operations:

> Aquila, Inc. (the company, which may be referred to as "we", "us" or "our") is a multinational energy provider headquartered in Kansas City, Missouri. We began as Missouri Public Service Company in 1917 and reincorporated in Delaware as UtiliCorp United Inc. in 1985. In March 2002, we changed out name to Aquila, Inc. We operate regulated and non-regulated businesses in four countries. As of December 31, 2002, we had 4,710 employees, with 3,496 of them in the United States and the remaining 1,214 in Canada. Our business is organized into two groups: Global Networks Group, which consists of Domestic Networks and International Networks, and Merchant Services, which consist of Capacity Services and Wholesale Services:
>
> - **Global Networks Group**- Our Domestic Networks business owns and operates regulated electric and natural gas operations in the United States, where we provide natural gas and/or electricity to approximately 1.3 million customers in Colorado, Iowa, Kansas, Michigan, Minnesota, Missouri and Nebraska. Domestic Networks also includes Everest Connections, our 96% owned domestic communications business. Our International Networks business owns and manages interests in electric, gas, and communications networks in Australia and the United Kingdom serving approximately 4.0 million customers. It also includes our wholly-owned electric generation, transmission and distribution properties serving approximately 483,000 customers in two Canadian provinces.
>
> - **Merchant Services** – Merchant Services consists of Capacity Services, **which** owns, operates, and contractually controls our non-regulated electric power generation assets, and Wholesale Services, our North American and European commodity client and capital businesses.

Aquila's total operating revenues were $2,575,014,000 for the 12 months ended December 31, 2002. These total operating revenues resulted in an overall net loss of $2,075,086,000. These revenues and net incomes were generated from a total property, plant and equipment of $3,180,829,000 at December 31, 2002. These figures were taken from Aquila's response to Staff Data Request No. MPSC-222.

Q. Please describe the current credit ratings of Aquila.

A. Currently, Standard & Poor's Corporation rates the senior unsecured debt of Aquila as "B." This rating is not considered to be of "investment grade."

Q. Please provide Standard & Poor's Corporation's most recent outlook concerning the credit rating assigned to Aquila.

A. Standard & Poor's Corporation's *Ratings Direct*, September 2, 2003, provides a summary explaining the outlook. Specifically the report states:

> **OUTLOOK: NEGATIVE**
> **RATIONALE**
>
> The ratings on Aquila Inc. reflect the company's strained liquidity position, execution risk associated with proposed asset sales, and insufficient cash flow to offset a burdensome debt level, not quite mitigated by management's efforts to restructure the company as a traditional regulated utility business.
>
> Aquila's restructuring plan is heavily dependent on continued asset sales, prompting concern over the heavy execution risk involved with an asset-sales strategy. Weak market conditions increase this risk, as evidenced by the delay in the sale of Avon Energy Partners Holdings. Due to weak cash flow generation from operations, asset sales are necessary for Aquila to reduce its debt levels and shore up its balance sheet. Still, cash flow generation relative to total debt is likely to remain weak and not exceed 15% in the near term.
>
> Cash flows from Aquila's regulated utilities will be stable; however, depressed power prices and negative spark spreads will continue to be a drag on cash flow from operations on the nonregulated side of the business. Overall, cash flow will be strained as the company faces continued restructuring charges in 2003 and debt maturities in 2004.

Expected cash flow from the company's reconstituted business plan is insufficient to fully offset Aquila's massive amount of debt.

Aquila has taken concerted steps toward returning to its traditional regulated utility business model. The company has managed to sell $1.9 billion in assets over the past year and has achieved more than $100 million in cost reduction by curbing operational expenses and rationalizing its trading and marketing business. In July 2003, Aquila completed the sale of its Australian power and gas interests to Australian-based companies, AMP Ltd. and AlintaGas Ltd., and used net proceeds of $477 million to retire its $200 million 364-day secured credit facility and enhance liquidity.

Furthermore, in May 2003, Aquila announced that it will terminate its 20-year tolling contract with Acadia Power Partners LLC for $105.5 million. The termination agreement will return to Aquila $45 million in posted collateral and will eliminate $843 million in payments due to Acadia over the remaining term of the tolling agreement, thus alleviating some of Aquila's liquidity concerns.

Aquila has also reduced capital investments in its noncore business units, such as Everest Connections, a communications business. Aquila's initiative to increase its focus on the regulated side of the business is a positive step for Aquila's credit profile.

Q. Please provide some historical financial information for Aquila.

A. Schedules 7 and 8 present historical capital structures and selected financial ratios from 1998 to 2002 for Aquila. Aquila and its subsidiaries' consolidated common equity ratio has ranged from a high of 44.17 percent to a low of 33.24 percent from 1998 through 2002. As of December 31, 2002, the capital structure used for purposes of calculating the rate of return to be applied to the MPS rate base, had a common equity ratio of 35.31 percent (Schedule 9). Aquila's consolidated return on year-end common equity (ROE) has decreased dramatically to a negative 129.06% in 2002 from a high of 13.46 percent in 2000. Aquila's 2002 ROE of negative 129.06 percent is a result of its nonregulated activities. Aquila's market-to-book ratio has varied in the past five years from a high of 1.73 times in 2000 to a low of .21 times in 2002.

Determination of the Cost of Capital

Q. Please describe the approach for determining a utility company's cost of capital.

A. The total dollars of capital for the utility company are determined as of a specific point in time. This total dollar amount is then apportioned into each specific capital component, i.e. common equity, long-term debt, preferred stock and short-term debt. A weighted cost for each capital component is determined by multiplying each capital component ratio by the appropriate embedded cost or by the estimated cost of common equity component. The individual weighted costs are summed to arrive at a total weighted cost of capital. This total weighted average cost of capital (WACC) is synonymous with the fair rate of return for the utility company.

Q. Why is a total WACC synonymous with a fair rate of return?

A. From a financial viewpoint, a company employs different forms of capital to support or fund the assets of the company. Each different form of capital has a cost and these costs are weighted proportionately to fund each dollar invested in the assets.

Assuming that the various forms of capital are within a reasonable balance and are costed correctly, the resulting total weighted cost of capital, when applied to rate base, will provide the funds necessary to service the various forms of capital. Thus, the total weighted cost of capital corresponds to a fair rate of return for the utility company.

Capital Structure and Embedded Costs

Q. What capital structure did you use for MPS?

A. The capital structure I have used for this case is Aquila's on a consolidated basis as of December 31, 2002. Schedule 9 presents Aquila's capital structure and associated

capital ratios. The resulting capital structure consists of 35.31 percent common stock equity, .38 percent short-term debt and 64.31 percent long-term debt.

The amount of long-term debt outstanding on December 31, 2002 includes current maturities due within one year. The amount of long-term debt in the capital structure is the amount of long-term debt indicated on the December 31, 2002 Balance Sheet provided by Aquila in response to Staff Data Request MPSC-222.

As of December 31, 2002, Aquila had $300,963,000 of short-term debt outstanding with $283,431,000 of Construction Work In Progress (CWIP) outstanding. Therefore, I included a short-term debt balance of $17,532,000 in the capital structure, which is the difference between the amount of short-term debt outstanding and the CWIP outstanding. The difference between actual short-term debt outstanding and CWIP was used for the short-term debt balance because it is assumed that CWIP will eventually be funded by long-term debt.

Q. Why did you use Aquila's capital structure as of the test year, December 31, 2002?

A. Because the debt and equity are generated from the parent company, Aquila, MPS rely on Aquila to finance their investment in MPS assets. Because MPS do not issue their own debt or equity, Aquila's actual capital structure as of December 31, 2002 was used for MPS .

In addition, Aquila's consolidated capital structure as of the test year is not extraordinary for a comparable electric utility. According to Schedule 20, Aquila's year-end

common equity to total capital ratio at the end of 2002 was 35.31 percent, which is near the average of 36.77 percent for the comparable companies.

Q. Why didn't you update the capital structure through the update period of September 30, 2003?

A. Because the common equity ratio in the updated capital structure is not consistent with the comparable companies. The common equity ratio as of September 30, 2003 was 30.77 percent.

Q. Why has Aquila's common equity ratio declined since December 31, 2002?

A. Because of losses associated with Aquila's ongoing nonregulated investments, impairment charges and net losses on sales of assets, losses within discontinued operations and margin losses incurred during the wind-down of the energy merchant trading portfolio.

Q. Doesn't the common equity ratio as of the updated period still fall within the range of common equity ratios contained in your comparable group?

A. Yes, but the equity ratios of DQE, Inc. and DPL, Inc. are fairly low. As of the end of 2002, DPL, Inc.'s common equity ratio was 24.70 percent and DQE, Inc.'s common equity ratio was 25.50 percent (see Schedule 20).

Q. Should you have included these companies in your averages to determine if Aquila's test year capital structure is reasonable?

A. Yes. Schedule 20 attached to this direct testimony shows that there were two higher levels of common equity ratios for two of the comparable companies, Hawaiian Electric Industries, Inc. and IDACORP, Inc. and two lower levels of common equity ratios for the comparable companies, DPL, Inc. and DQE, Inc. However, the other two companies, Cleco Corporation and NSTAR, have common equity ratios that are close to the average for

all six of the comparable companies. Therefore, the inclusion of DPL, Inc. and DQE, Inc. have not skewed the average common equity ratio.

Q. What was the embedded cost of long-term debt for Aquila on December 31, 2002?

A. I determined the embedded cost of long-term debt on December 31, 2002, for Aquila to be 7.633 percent (see Schedule 10). This embedded cost of debt excludes a debt issuance that was issued after Aquila had its credit rating lowered. The interest rate on this debt issuance was 14.875 percent. Therefore, the embedded cost of debt does not contain any increased cost of capital that Aquila has incurred since S&P began to consistently downgrade Aquila's credit rating to its current level of B. The embedded cost of debt excludes the Australian debt because as of July 24, 2003, Aquila completed the sale of its Australian energy investments

Q. Why was short-term debt included in the consolidated capital structure of Aquila at December 31, 2002?

A. As of December 31, 2002, the short-term debt balance was $300,963,000 and the CWIP balance was $283,431,000. Any time the short-term debt balance exceeds CWIP, this amount of short-term debt is included in the capital structure. The philosophy behind this is that because CWIP will eventually be funded by long-term debt, that at least this amount of short-term debt should not be considered in the cost of capital because it is not meant to be a permanent funding source.

Cost of Equity

Q. How do you propose to analyze those factors by which the cost of equity for MPS may be determined?

A. In order to calculate the cost of equity for MPS, I performed a comparable company analysis of six companies. I have selected the discounted cash flow (DCF) model as the primary tool to determine the cost of equity for MPS, but I also used the risk premium model and the Capital Asset Pricing Model to check the reasonableness of the DCF results.

The DCF Model

Q. Please describe the DCF model.

A. The DCF model is a market-oriented approach for deriving the cost of equity. The return on equity calculated from the DCF model is inherently capable of attracting capital. This results from the theory that security prices adjust continually over time, so that an equilibrium price exists and the stock is neither undervalued nor overvalued. It can also be stated that stock prices continually fluctuate to reflect the required and expected return for the investor.

The continuous growth form of the DCF model was used in this analysis. This model relies upon the fact that a company's common stock price is dependent upon the expected cash dividends and upon cash flows received through capital gains or losses that result from stock price changes. The interest rate which discounts the sum of the future expected cash flows to the current market price of the common stock is the calculated cost of equity. This can be expressed algebraically as:

$$\text{Present Price} = \underset{\text{Discounted by k}}{\text{Expected Dividends}} + \underset{\text{Discounted by k}}{\text{Expected Price in 1 year}} \qquad (1)$$

where k equals the cost of equity. Since the expected price of a stock in one year is equal to the present price multiplied by one plus the growth rate, equation (1) can be restated as:

$$\text{Present Price} = \frac{\text{Expected Dividends}}{(1+k)} + \frac{\text{Present Price } (1+g)}{(1+k)} \quad (2)$$

where g equals the growth rate and k equals the cost of equity. Letting the present price equal P_0 and expected dividends equal D_1, the equation appears as:

$$P_0 = \frac{D_1}{(1+k)} + \frac{P_0(1+g)}{(1+k)} \quad (3)$$

The cost of equity equation may also be algebraically represented as:

$$k = \frac{D_1}{P_0} + g \quad (4)$$

Thus, the cost of common stock equity, k, is equal to the expected dividend yield (D_1/P_0) plus the expected growth in dividends (g) continuously summed into the future. The growth in dividends and implied growth in earnings will be reflected in the current price. Therefore, this model also recognizes the potential of capital gains or losses associated with owning a share of common stock.

The discounted cash flow method is a continuous stock valuation model. The DCF theory is based on the following assumptions:

1. Market equilibrium;
2. Perpetual life of the company;
3. Constant payout ratio;
4. Payout of less than 100% earnings;
5. Constant price/earnings ratio;
6. Constant growth in cash dividends;

7. Stability in interest rates over time;

8. Stability in required rates of return over time; and

9. Stability in earned returns over time.

Flowing from these, it is further assumed that an investor's growth horizon is unlimited and that earnings, book values and market prices grow hand-in-hand. Although the entire list of the above assumptions is rarely met, the DCF model is a reasonable working model describing an actual investor's expectations and resulting behaviors.

Q. Can you directly analyze the cost of equity for MPS?

A. No. In order to directly determine the cost of equity for MPS, they would have to be a stand-alone company that is publicly traded and pay a cash dividend. The only way that an investor can invest in the operations of MPS is by investing in the consolidated corporation of Aquila. When an investor purchases a share of Aquila, he is purchasing an interest in the earnings of the entire company, which includes the financial effects of the nonregulated, riskier operations that Aquila has been exiting over the last couple of years.

Q. Please explain how you approached the determination of the cost of equity for MPS.

A. I decided to do an analysis of the cost of equity for a comparable group of electric utility companies.

Q. Why didn't you use Aquila's cost of equity as a proxy for the cost of equity for MPS?

A. As explained above, Aquila's riskier, nonregulated operations have had a dramatic effect on Aquila's cost of capital. Aquila's cost of capital is higher than it would be

for an electric utility company that did not get involved in riskier operations, such as energy marketing and trading. The objective of this analysis is to approximate the cost of equity for MPS, which are regulated utilities. Therefore, it is appropriate to estimate MPS's cost of equity based on publicly traded companies that have operations that resemble the operations of MPS.

Q. How did you determine which companies you would include to represent the comparable electric utility companies?

A. Schedule 11 presents a list of market-traded electric utility companies monitored by Value Line, which also monitors Aquila. The criteria that I used to select the comparable companies are as follows:

1. Stock publicly traded: This criterion did not eliminate any companies;
2. Information printed in Value Line: This criterion eliminated two companies;
3. Total capitalization less than $5 billion: This criterion eliminated thirty-two additional companies;
4. Greater than 70 percent of revenues received from electric utility operations: This criterion eliminated twenty additional companies;
5. Ten years of data available: This criterion eliminated two additional companies;
6. No nuclear operations: This criterion eliminated four additional companies;
7. At least investment grade credit rating: This criterion eliminated six additional companies;
8. No Missouri operations: This criterion did not eliminate any companies.

This final group of six publicly traded electric utility companies serve as a proxy group to determine the cost of equity for MPS. The comparables are listed on Schedule 12.

Q. Please explain how you approached the determination of the cost of equity for the comparables.

A. I have calculated a DCF cost of equity for each of the comparables. The first step was to calculate a growth rate. I reviewed the actual dividends per share (DPS), earnings per share (EPS), and book values per share (BVPS) as well as projected growth rates for the comparables. Schedule 13-1 lists the annual compound growth rates for DPS, EPS, and BVPS for the periods 1992 through 2002. Schedule 13-2 lists the annual compound growth rates for DPS, EPS, and BVPS for the periods of 1997-2002. Schedule 13-3 presents the averages of the growth rates determined in Schedules 13-1 and 13-2. Schedule 14 presents the average historical growth rates and the projected growth rates for the comparables. The projected growth rates were obtained from three outside sources; I/B/E/S Inc.'s Institutional Brokers Estimate System, Standard & Poor's Corporation's Earnings Guide, and The Value Line Investment Survey: Ratings and Reports. The three projected growth rates were averaged to develop an average projected growth rate of 3.61 percent, which was averaged with the historical growth rates to produce an average historical and projected growth rate of 1.86 percent. All the growth rates were then analyzed to arrive at a growth rate range for the comparables of 3.10 percent to 4.10 percent.

The next step was to calculate an expected yield for each of the comparables. The yield term of the DCF model is calculated by dividing the amount of common dividends per share expected to be paid over the next twelve months by the market price per share of the firm's stock. Even though a strict technical application of the model requires the use of a current spot market price, I have chosen to use a monthly average market price for each of the comparables. This averaging technique is an attempt to minimize the effects on the dividend yield which can occur due to daily volatility in the stock market. Schedule 15 presents the average high / low stock price for the period of June 1, 2003 through

September 30, 2003 for each comparable. Column 1 of Schedule 16 indicates the expected dividend for each comparable over the next 12 months as projected by The Value Line Investment Survey: Ratings & Reports, August 15, September 5 and October 3, 2003. Column 3 of Schedule 16 shows the projected dividend yield for each of the comparables. The dividend yield for each comparable was averaged to calculate the projected dividend yield for the comparables of 5.54 percent.

As illustrated in column 5 of Schedule 16, the average cost of equity based on the projected dividend yield added to the average of historical and projected growth is 7.40 percent.

Q. What analysis was performed to determine the reasonableness of your DCF model derived return on common equity for the comparable company group?

A. I performed a risk premium and capital asset pricing model (CAPM) cost of equity analysis for the comparables.

Q. Please describe the capital asset pricing model.

A. The CAPM describes the relationship between a security's investment risk and its market rate of return. This relationship identifies the rate of return which investors expect a security to earn so that its market return is comparable with the market returns earned by other securities that have similar risk. The general form of the CAPM is as follows:

$$k = R_f + \beta (R_m - R_f)$$

where:

k = the expected return on equity for a specific security;
R_f = the risk-free rate;
β = beta; and

$R_m - R_f =$ the market risk premium.

The first term of the CAPM is the risk-free rate (R_f). The risk-free rate reflects the level of return that can be achieved without accepting any risk. In reality, there is no such risk-free asset, but it is generally represented by U.S. Treasury securities. For purposes of this analysis, the risk-free rate was represented by the average yield on the 30-Year U.S. Treasury Bond of 5.16 percent for the month of October 2003 as quoted on the Investopedia Website: http://www.investopedia.com.

The second term of the CAPM is beta (β). Beta is an indicator of a security's investment risk. It represents the relative movement and relative risk between a particular security and the market as a whole (where beta for the market equals 1.00). Securities with betas greater than 1.00 exhibit greater volatility than do securities with betas less than 1.00. This causes a higher beta security to be less desirable and therefore requires a higher return in order to attract investor capital away from a lower beta security. Schedule 17 contains the appropriate betas for the comparables.

The final term of the CAPM is the market risk premium ($R_m - R_f$). The market risk premium represents the expected return from holding the entire market portfolio less the expected return from holding a risk-free investment. For purposes of this analysis, I looked at two time periods for risk premium estimates. The first risk premium used was based on the long-term period of 1926 to 2002, which was 6.40 percent. The second risk premium used was based on the short-term, recent period of 1993 to 2002, which was determined to be -.34 percent. These risk premiums were taken from Ibbotson Associates, Inc.'s Stocks, Bonds, Bills, and Inflation: 2003 Yearbook.

Schedule 17 presents the CAPM analysis with regard to the comparables. The CAPM analysis produces an estimated cost of common equity of 9.75 percent for the comparables when using the long-term risk premium period. Using the short-term risk premium period produces an estimated cost of common equity of 4.92 percent. Although the long-term risk premium CAPM results support the upper part of my recommended cost of common equity range based on my DCF analysis, the CAPM has not historically been relied upon by the Financial Analysis Department in determining the cost of equity for a utility company. It is strictly used as a test of reasonableness to provide some comfort with the results of the DCF, and in this case the long-term risk premium CAPM supports the DCF results. Although the short-term risk premium CAPM results are extremely low, it is interesting to observe that the stock market returns over the last ten years have actually been less than the returns on long-term government bonds over the last ten years.

The CAPM results appear to be coming in lower than in the past because interest rates are at forty-year lows and because the market returns have decreased significantly in the past few years. This would lend support to a lower recommended cost of common equity.

Q. Please describe the risk premium model.

A. The risk premium concept implies that the required return on equity is found by adding an explicit premium for risk to a current interest rate. Schedules 18-1 through 18-6 show the average risk premium above the yield on the Thirty-Year U.S. Treasury Bond for each of the comparables' actual returns on common equity. Although the expected returns on equity are usually used by the Financial Analysis Department for the risk premium analysis, this information was not available for the time period of the analysis so I relied on actual returns on common equity. The use of actual returns on equity to perform the risk

premium analysis is a commonly accepted practice when estimating the cost of common equity. This analysis shows, on average, that the actual returns on equity as reported by The Value Line Investment Survey: Ratings & Reports ranges from 445 basis points to 964 basis points higher than the average yields on the Thirty-Year U.S. Treasury Bonds for the period of January 1993 through December 2002 (see Schedule 19). The risk premium is then added to the current yield on the Thirty-Year U.S. Treasury Bond. Column 3 of Schedule 19 shows that the risk premium cost of equity estimate for each of the comparables ranged from 9.61 percent to 14.80 percent, with an average of 11.51 percent.

Q. Please summarize your cost of equity analysis to this point.

A. I have performed a DCF, CAPM and risk premium cost of equity analysis on a group of six comparable companies. The results are summarized below.

	DCF	CAPM	Risk Premium
Comparable Companies	8.64% - 9.64%	9.75%; 4.92%	11.51%

Q. Based on the analysis you performed, what is your recommended return on common equity in this proceeding?

A. I am recommending a return on common equity in the range of 8.64 percent to 9.64 percent based on the results of the DCF analysis.

Q. Did you perform an analysis on Aquila's resulting pre-tax interest coverage ratios?

A. Yes. However, many assumptions and hypothetical situations had to be used. For example, all of the international debt was used for the interest expense because the amount of debt on the December 31, 2002, Balance Sheet reflects all of this debt. I also had to impute an interest expense for the $500,000,000 of debt that was issued after Aquila's

credit rating deteriorated. I imputed the interest expense on this issuance by multiplying the principal amount by the July 2002 BBB utility bond yield, which was the date this debt was issued, as indicated in the Mergent Bond Record. Based on these assumptions, a pro forma pre-tax interest coverage calculation was completed for Aquila (see Schedule 21). It reveals that the return on equity range of 8.64 percent to 9.64 percent would yield a pre-tax interest coverage ratio in the range of 2.11 times to 2.23 times. This range of pretax interest coverage ratios falls between the lower quartile and median quartile for a BBB rated electric utility.

Rate of Return for MPS

Q. Please explain how the returns developed for each capital component are used in the rate making approach you have adopted for MPS.

A. The cost of service rate making method was adopted in this case. This approach develops the public utility's revenue requirement. The cost of service (revenue requirement) is based on the following components: operating costs, rate base and a return allowed on the rate base (see Schedule 22).

It is my responsibility to calculate and recommend a rate of return that should be authorized on the Missouri jurisdictional electric utility rate base of MPS. Under the cost of service rate making approach, a weighted cost of capital in the range of 7.97 to 8.32 percent was developed for MPS's electric utility operations (see Schedule 23). This rate was calculated by applying an embedded cost of long-term debt of 7.633 percent, an average cost of short-term debt of 3.02 percent, and a cost of common equity range of 8.64 percent to 9.64 percent to a capital structure consisting of 64.31 percent long-term debt, .38 percent short-term debt and 35.31 percent common equity. Therefore, from a financial risk / return prospective, as I suggested earlier, I am recommending that

MPS's electric utility operations be allowed to earn a return on its original cost rate base in the range of 7.97 to 8.32 percent.

Through my analysis, I believe that I have developed a fair and reasonable return and, when applied to MPS's jurisdictional rate base, will allow Aquila the opportunity to earn the revenue requirement developed in this rate case.

Q. Does this conclude your prepared direct testimony?

A. Yes, it does.

AN ANALYSIS OF THE COST OF CAPITAL

FOR

AQUILA, INC.
d/b/a AQUILA NETWORKS MPS

CASE NO. ER-2004-0034

SCHEDULES

BY

DAVID MURRAY

UTILITY SERVICES DIVISION

MISSOURI PUBLIC SERVICE COMMISSION

DECEMBER 2003

AQUILA, INC.
CASE NO. ER-2004-0034

List of Schedules

Schedule Number	Description of Schedule
1	List of Schedules
2-1	Federal Reserve Discount Rate and Federal Funds Rate Changes
2-2	Graph of Federal Reserve Discount Rates and Federal Funds Rate Changes
3-1	Average Prime Interest Rates
3-2	Graph of Average Prime Interest Rates
4-1	Rate of Inflation
4-2	Graph of Rate of Inflation
5-1	Average Yields on Mergent's Public Utility Bonds
5-2	Average Yields on 30-Year U.S. Treasury Bonds
5-3	Graph of Average Yields on Mergent's Public Utility Bonds and Thirty-Year U.S. Treasury Bonds
5-4	Graph of Monthly Spreads Between Yields on Mergent's Public Utility Bonds and 30-Year U.S. Treasury Bonds
6	Economic Estimates and Projections, 2003 - 2005
7	Historical Capital Structures for Aquila, Inc.
8	Selected Financial Ratios for Aquila, Inc.
9	Capital Structure as of December 31, 2002 for Aquila, Inc.
10	Embedded Cost of Long-Term Debt as of December 31, 2002 for Aquila, Inc.
11	Criteria for Selecting Comparable Electric Utility Companies
12	Comparable Electric Utility Companies for Aquila, Inc. d/b/a Aquila Networks MPS
13-1	Ten-Year Dividends Per Share, Earnings Per Share & Book Value Per Share Growth Rates for the Comparable Electric Utility Companies
13-2	Five-Year Dividends Per Share, Earnings Per Share & Book Value Per Share Growth Rates for the Comparable Electric Utility Companies
13-3	Average of Ten and Five-Year Dividends Per Share, Earnings Per Share & Book Value Per Share Growth Rates for the Comparable Electric Utility Companies
14	Historical and Projected Growth Rates for the Comparable Electric Utility Companies
15	Average High / Low Stock Price for June 2003 through September 2003 for the Comparable Electric Utility Companies
16	Discount Cash Flow (DCF) Estimated Costs of Common Equity for the Comparable Electric Utility Companies
17	Capital Asset Pricing Model (CAPM) Costs of Common Equity Estimates for the Comparable Electric Utility Companies
18-1	Average Risk Premium Above the Yields of 30-Year U.S. Treasury Bonds for Cleco Corporation's Actual Returns on Common Equity
18-2	Average Risk Premium Above the Yields of 30-Year U.S. Treasury Bonds for DPL Inc.'s Actual Returns on Common Equity
18-3	Average Risk Premium Above the Yields of 30-Year U.S. Treasury Bonds for DQE, Inc.'s Actual Returns on Common Equity
18-4	Average Risk Premium Above the Yields of 30-Year U.S. Treasury Bonds for Hawaiian Electric's Actual Returns on Common Equity
18-5	Average Risk Premium Above the Yields of 30-Year U.S. Treasury Bonds for IDACORP, Inc.'s Actual Returns on Common Equity
18-6	Average Risk Premium Above the Yields of 30-Year U.S. Treasury Bonds for NSTAR's Actual Returns on Common Equity
19	Risk Premium Cost of Equity Estimates for the Comparable Electric Utility Companies
20	Selected Financial Ratios for the Comparable Electric Utility Companies
21	Pro Forma Pre-Tax Interest Coverage Ratios for Aquila, Inc.
22	Public Utility Revenue Requirement or Cost of Service
23	Weighted Cost of Capital as of December 31, 2002 for Aquila, Inc. d/b/a Aquila Networks MPS

SCHEDULE 1

AQUILA, INC.
CASE NO. ER-2004-0034

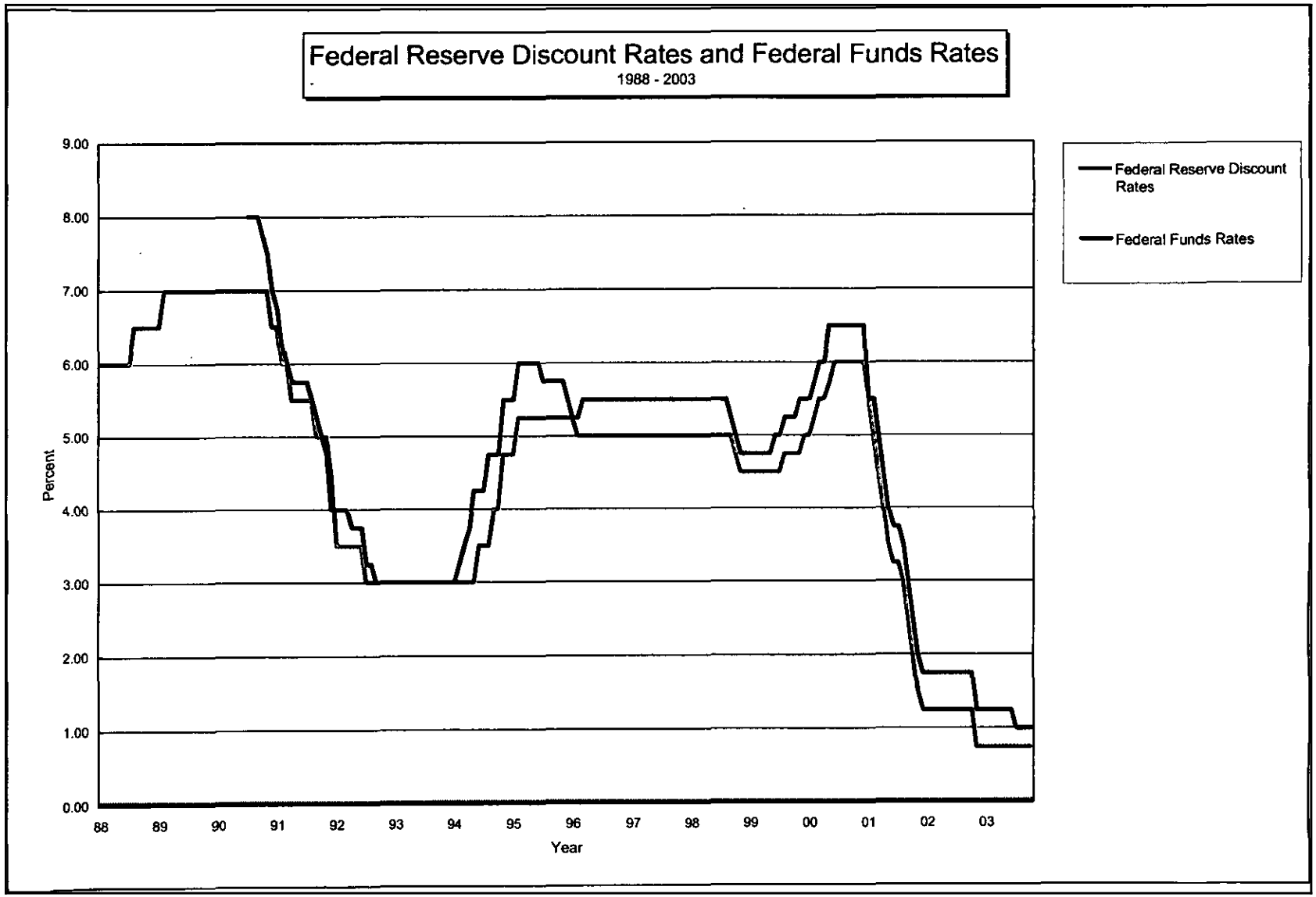
Federal Reserve Discount Rate Changes

Date	Discount Rate	Federal Funds Rate
05/20/85	7.50%	
03/07/86	7.00%	
04/21/86	6.50%	
07/11/86	6.00%	
08/21/86	5.50%	
09/04/87	6.00%	
08/09/88	6.50%	
02/24/89	7.00%	
07/13/90		8.00% *
10/29/90		7.75%
11/13/90		7.50%
12/07/90		7.25%
12/18/90		7.00%
12/19/90	6.50%	
01/09/91		6.75%
02/01/91	6.00%	6.25%
03/08/91		6.00%
04/30/91	5.50%	5.75%
08/06/91		5.50%
09/13/91	5.00%	5.25%
10/31/91		5.00%
11/06/91	4.50%	4.75%
12/06/91		4.50%
12/20/91	3.50%	4.00%
04/09/92		3.75%
07/02/92	3.00%	3.25%
09/04/92		3.00%
01/01/93		
12/31/93	No Changes	No Changes
02/04/94		3.25%
03/22/94		3.50%
04/18/94		3.75%
05/17/94	3.50%	4.25%
08/16/94	4.00%	4.75%
11/15/94	4.75%	5.50%
02/01/95	5.25%	6.00%
07/06/95		5.75%
12/19/95		5.50%
01/31/96	5.00%	5.25%
03/25/97		5.50%
12/12/97	5.00%	
01/09/98	5.00%	
03/06/98	5.00%	
09/29/98		5.25%
10/15/98	4.75%	5.00%
11/17/98	4.50%	4.75%
06/30/99	4.50%	5.00%
08/24/99	4.75%	5.25%
11/16/99	5.00%	5.50%
02/02/00	5.25%	5.75%
03/21/00	5.50%	6.00%
05/16/00	5.50%	6.50%
05/19/00	6.00%	
01/03/01	5.75%	6.00%
01/04/01	5.50%	
01/31/01	5.00%	5.50%
03/20/01	4.50%	5.00%
04/18/01	4.00%	4.50%
05/15/01	3.50%	4.00%
06/27/01	3.25%	3.75%
08/21/01	3.00%	3.50%
09/17/01	2.50%	3.00%
10/02/01	2.00%	2.50%
11/06/01	1.50%	2.00%
12/11/01	1.25%	1.75%
01/11/02	1.25%	
02/01/02	1.25%	
11/06/02	0.75%	1.25%
06/25/03		1.00%

* Began tracking the Federal Funds Rate.

Sources: Federal Reserve Bank of New York: http://www.ny.frb.org/pihome/statistics/dlyrates/fedrate.html
Historical Changes of the Fed Fund and Discount Rate - Statistics - Federal Reserve Bank of New York

SCHEDULE 2-1


Federal Reserve Discount Rates and Federal Funds Rates
1988 - 2003
9.00
8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
Percent
88
89
90
91
92
93
94
95
96
97
98
99
00
01
02
03
Year
Federal Reserve Discount Rates
Federal Funds Rates

SCHEDULE 2-2

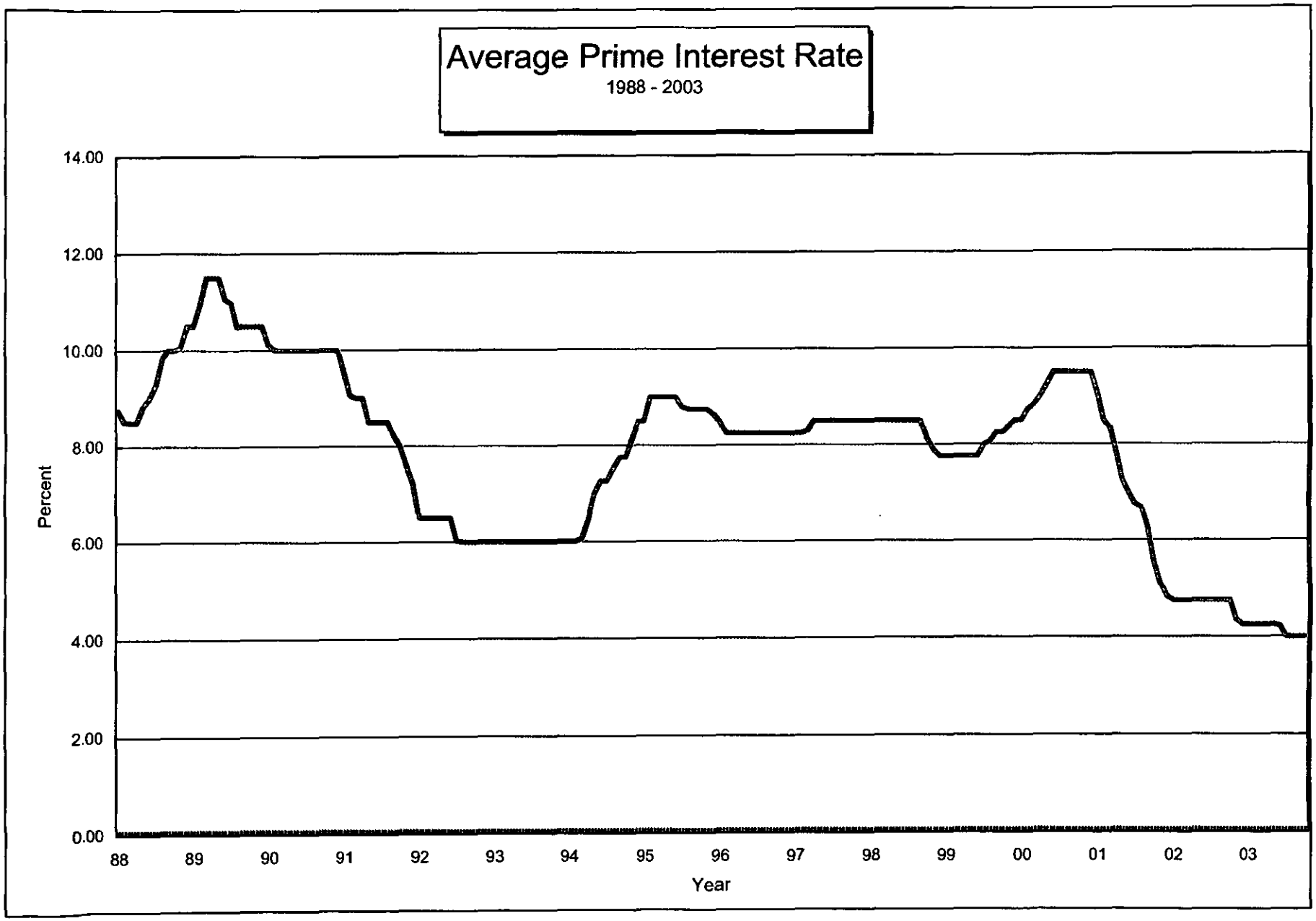
AQUILA, INC.
CASE NO. ER-2004-0034

Average Prime Interest Rates

Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)
Jan 1988	8.75	Jan 1992	6.50	Jan 1996	8.50	Jan 2000	8.50
Feb	8.51	Feb	6.50	Feb	8.25	Feb	8.73
Mar	8.50	Mar	6.50	Mar	8.25	Mar	8.83
Apr	8.50	Apr	6.50	Apr	8.25	Apr	9.00
May	8.84	May	6.50	May	8.25	May	9.24
Jun	9.00	Jun	6.50	Jun	8.25	Jun	9.50
Jul	9.29	Jul	6.02	Jul	8.25	Jul	9.50
Aug	9.84	Aug	6.00	Aug	8.25	Aug	9.50
Sep	10.00	Sep	6.00	Sep	8.25	Sep	9.50
Oct	10.00	Oct	6.00	Oct	8.25	Oct	9.50
Nov	10.05	Nov	6.00	Nov	8.25	Nov	9.50
Dec	10.50	Dec	6.00	Dec	8.25	Dec	9.50
Jan 1989	10.50	Jan 1993	6.00	Jan 1997	8.26	Jan 2001	9.05
Feb	10.93	Feb	6.00	Feb	8.25	Feb	8.50
Mar	11.50	Mar	6.00	Mar	8.30	Mar	8.32
Apr	11.50	Apr	6.00	Apr	8.50	Apr	7.80
May	11.50	May	6.00	May	8.50	May	7.24
Jun	11.07	Jun	6.00	Jun	8.50	Jun	6.98
Jul	10.98	Jul	6.00	Jul	8.50	Jul	6.75
Aug	10.50	Aug	6.00	Aug	8.50	Aug	6.67
Sep	10.50	Sep	6.00	Sep	8.50	Sep	6.28
Oct	10.50	Oct	6.00	Oct	8.50	Oct	5.53
Nov	10.50	Nov	6.00	Nov	8.50	Nov	5.10
Dec	10.50	Dec	6.00	Dec	8.50	Dec	4.84
Jan 1990	10.11	Jan 1994	6.00	Jan 1998	8.50	Jan 2002	4.75
Feb	10.00	Feb	6.00	Feb	8.50	Feb	4.75
Mar	10.00	Mar	6.06	Mar	8.50	Mar	4.75
Apr	10.00	Apr	6.45	Apr	8.50	Apr	4.75
May	10.00	May	6.99	May	8.50	May	4.75
Jun	10.00	Jun	7.25	Jun	8.50	Jun	4.75
Jul	10.00	Jul	7.25	Jul	8.50	Jul	4.75
Aug	10.00	Aug	7.51	Aug	8.50	Aug	4.75
Sep	10.00	Sep	7.75	Sep	8.49	Sep	4.75
Oct	10.00	Oct	7.75	Oct	8.12	Oct	4.75
Nov	10.00	Nov	8.15	Nov	7.89	Nov	4.35
Dec	10.00	Dec	8.50	Dec	7.75	Dec	4.25
Jan 1991	9.52	Jan 1995	8.50	Jan 1999	7.75	Jan 2003	4.25
Feb	9.05	Feb	9.00	Feb	7.75	Feb	4.25
Mar	9.00	Mar	9.00	Mar	7.75	Mar	4.25
Apr	9.00	Apr	9.00	Apr	7.75	Apr	4.25
May	8.50	May	9.00	May	7.75	May	4.25
Jun	8.50	Jun	9.00	Jun	7.75	Jun	4.22
Jul	8.50	Jul	8.80	Jul	8.00	Jul	4.00
Aug	8.50	Aug	8.75	Aug	8.06	Aug	4.00
Sep	8.20	Sep	8.75	Sep	8.25	Sep	4.00
Oct	8.00	Oct	8.75	Oct	8.25	Oct	4.00
Nov	7.58	Nov	8.75	Nov	8.37		
Dec	7.21	Dec	8.65	Dec	8.50		

Sources: http://research.stlouisfed.org/fred2/data/MPRIME.txt

SCHEDULE 3-1


Average Prime Interest Rate
1988 - 2003
14.00
12.00
10.00
8.00
6.00
4.00
2.00
0.00
Percent
88
89
90
91
92
93
94
95
96
97
98
99
00
01
02
03
Year

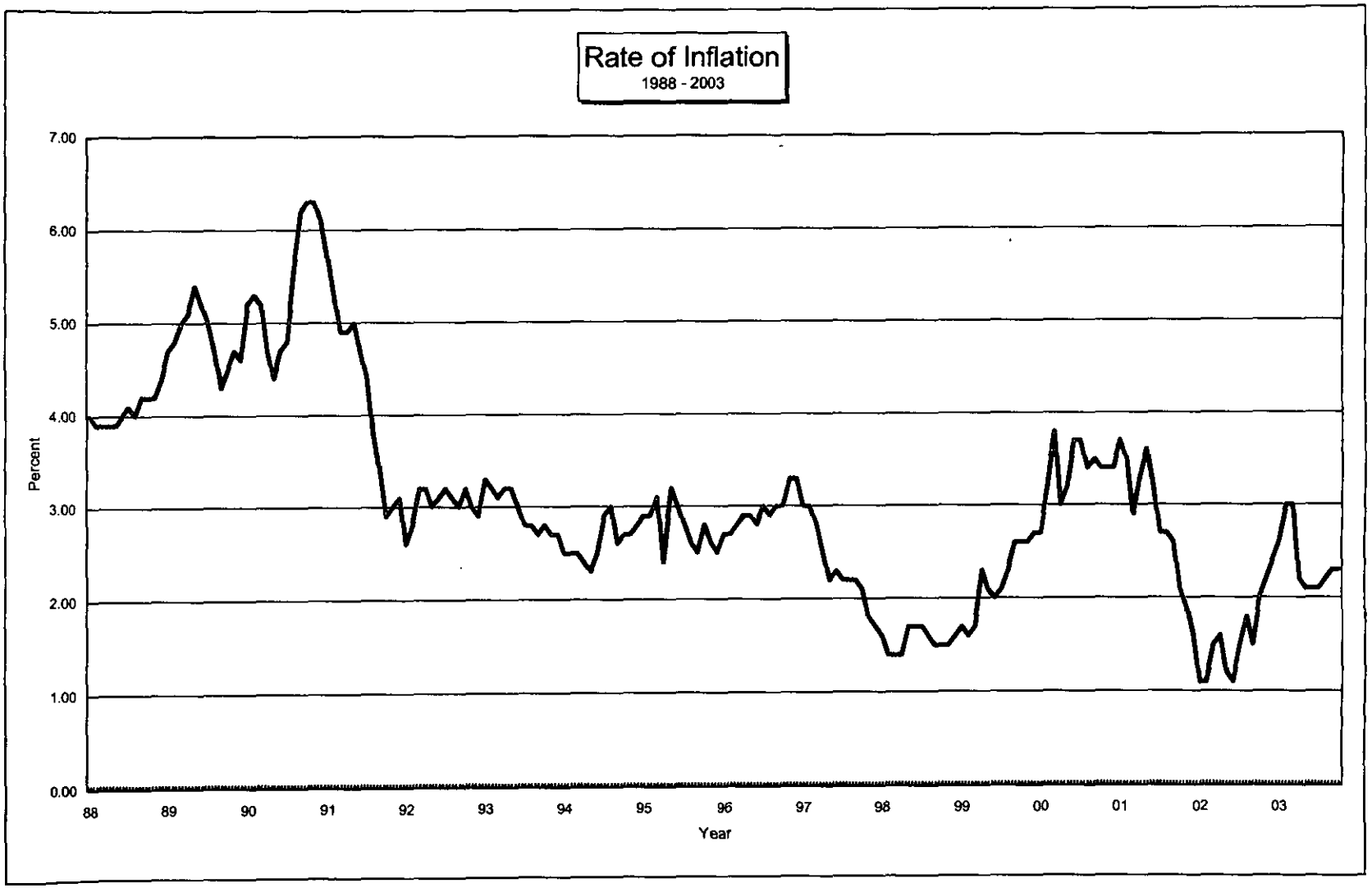
Schedule 3-2

AQUILA, INC.
CASE NO. ER-2004-0034

Rate of Inflation

Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)
Jan 1988	4.00	Jan 1992	2.60	Jan 1996	2.70	Jan 2000	2.70
Feb	3.90	Feb	2.80	Feb	2.70	Feb	3.20
Mar	3.90	Mar	3.20	Mar	2.80	Mar	3.70
Apr	3.90	Apr	3.20	Apr	2.90	Apr	3.00
May	3.90	May	3.00	May	2.90	May	3.20
Jun	4.00	Jun	3.10	Jun	2.80	Jun	3.70
Jul	4.10	Jul	3.20	Jul	3.00	Jul	3.70
Aug	4.00	Aug	3.10	Aug	2.90	Aug	3.40
Sep	4.20	Sep	3.00	Sep	3.00	Sep	3.50
Oct	4.20	Oct	3.20	Oct	3.00	Oct	3.40
Nov	4.20	Nov	3.00	Nov	3.30	Nov	3.40
Dec	4.40	Dec	2.90	Dec	3.30	Dec	3.40
Jan 1989	4.70	Jan 1993	3.30	Jan 1997	3.00	Jan 2001	3.70
Feb	4.80	Feb	3.20	Feb	3.00	Feb	3.50
Mar	5.00	Mar	3.10	Mar	2.80	Mar	2.90
Apr	5.10	Apr	3.20	Apr	2.50	Apr	3.30
May	5.40	May	3.20	May	2.20	May	3.60
Jun	5.20	Jun	3.00	Jun	2.30	Jun	3.20
Jul	5.00	Jul	2.80	Jul	2.20	Jul	2.70
Aug	4.70	Aug	2.80	Aug	2.20	Aug	2.70
Sep	4.30	Sep	2.70	Sep	2.20	Sep	2.60
Oct	4.50	Oct	2.80	Oct	2.10	Oct	2.10
Nov	4.70	Nov	2.70	Nov	1.80	Nov	1.90
Dec	4.60	Dec	2.70	Dec	1.70	Dec	1.60
Jan 1990	5.20	Jan 1994	2.50	Jan 1998	1.60	Jan 2002	1.10
Feb	5.30	Feb	2.50	Feb	1.40	Feb	1.10
Mar	5.20	Mar	2.50	Mar	1.40	Mar	1.50
Apr	4.70	Apr	2.40	Apr	1.40	Apr	1.60
May	4.40	May	2.30	May	1.70	May	1.20
Jun	4.70	Jun	2.50	Jun	1.70	Jun	1.10
Jul	4.80	Jul	2.90	Jul	1.70	Jul	1.50
Aug	5.60	Aug	3.00	Aug	1.60	Aug	1.80
Sep	6.20	Sep	2.60	Sep	1.50	Sep	1.50
Oct	6.30	Oct	2.70	Oct	1.50	Oct	2.00
Nov	6.30	Nov	2.70	Nov	1.50	Nov	2.20
Dec	6.10	Dec	2.80	Dec	1.60	Dec	2.40
Jan 1991	5.70	Jan 1995	2.90	Jan 1999	1.70	Jan 2003	2.60
Feb	5.30	Feb	2.90	Feb	1.60	Feb	3.00
Mar	4.90	Mar	3.10	Mar	1.70	Mar	3.00
Apr	4.90	Apr	2.40	Apr	2.30	Apr	2.20
May	5.00	May	3.20	May	2.10	May	2.10
Jun	4.70	Jun	3.00	Jun	2.00	Jun	2.10
Jul	4.40	Jul	2.80	Jul	2.10	Jul	2.10
Aug	3.80	Aug	2.60	Aug	2.30	Aug	2.20
Sep	3.40	Sep	2.50	Sep	2.60	Sep	2.30
Oct	2.90	Oct	2.80	Oct	2.60	Oct	2.30
Nov	3.00	Nov	2.60	Nov	2.60		
Dec	3.10	Dec	2.50	Dec	2.70		

Source: U.S. Department of Labor, Bureau of Labor Statistics, Consumer Price Index
All Urban Consumers, Change for 12-Month Period, Bureau of Labor Statistics,
ftp://ftp.bls.gov/pub/special.requests/cpi/cpiai.txt


Rate of Inflation
1988 - 2003
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
Percent
88
89
90
91
92
93
94
95
96
97
98
99
00
01
02
03
Year

SCHEDULE 4-2

AQUILA, INC.
CASE NO. ER-2004-0034

Average Yields on Mergent's Public Utility Bonds

Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)
Jan 1988	10.75	Jan 1992	8.67	Jan 1996	7.20	Jan 2000	8.22
Feb	10.11	Feb	8.77	Feb	7.37	Feb	8.10
Mar	10.11	Mar	8.84	Mar	7.72	Mar	8.14
Apr	10.53	Apr	8.79	Apr	7.88	Apr	8.14
May	10.75	May	8.72	May	7.99	May	8.55
Jun	10.71	Jun	8.64	Jun	8.07	Jun	8.22
Jul	10.96	Jul	8.46	Jul	8.02	Jul	8.17
Aug	11.09	Aug	8.34	Aug	7.84	Aug	8.05
Sep	10.56	Sep	8.32	Sep	8.01	Sep	8.16
Oct	9.92	Oct	8.44	Oct	7.76	Oct	8.08
Nov	9.89	Nov	8.53	Nov	7.48	Nov	8.03
Dec	10.02	Dec	8.36	Dec	7.58	Dec	7.79
Jan 1989	10.02	Jan 1993	8.23	Jan 1997	7.79	Jan 2001	7.76
Feb	10.02	Feb	8.00	Feb	7.68	Feb	7.69
Mar	10.16	Mar	7.85	Mar	7.92	Mar	7.59
Apr	10.14	Apr	7.76	Apr	8.08	Apr	7.81
May	9.92	May	7.78	May	7.94	May	7.88
Jun	9.49	Jun	7.68	Jun	7.77	Jun	7.75
Jul	9.34	Jul	7.53	Jul	7.52	Jul	7.71
Aug	9.37	Aug	7.21	Aug	7.57	Aug	7.57
Sep	9.43	Sep	7.01	Sep	7.50	Sep	7.73
Oct	9.37	Oct	6.99	Oct	7.37	Oct	7.64
Nov	9.33	Nov	7.30	Nov	7.24	Nov	7.61
Dec	9.31	Dec	7.33	Dec	7.16	Dec	7.86
Jan 1990	9.44	Jan 1994	7.31	Jan 1998	7.03	Jan 2002	7.69
Feb	9.66	Feb	7.44	Feb	7.09	Feb	7.62
Mar	9.75	Mar	7.83	Mar	7.13	Mar	7.83
Apr	9.87	Apr	8.20	Apr	7.12	Apr	7.74
May	9.89	May	8.32	May	7.11	May	7.76
Jun	9.69	Jun	8.31	Jun	6.99	Jun	7.67
Jul	9.66	Jul	8.47	Jul	6.99	Jul	7.54
Aug	9.84	Aug	8.41	Aug	6.96	Aug	7.34
Sep	10.01	Sep	8.65	Sep	6.88	Sep	7.23
Oct	9.94	Oct	8.88	Oct	6.88	Oct	7.43
Nov	9.76	Nov	9.00	Nov	6.96	Nov	7.31
Dec	9.57	Dec	8.79	Dec	6.84	Dec	7.20
Jan 1991	9.56	Jan 1995	8.77	Jan 1999	6.87	Jan 2003	7.13
Feb	9.31	Feb	8.56	Feb	7.00	Feb	6.92
Mar	9.39	Mar	8.41	Mar	7.18	Mar	6.80
Apr	9.30	Apr	8.30	Apr	7.16	Apr	6.68
May	9.29	May	7.93	May	7.42	May	6.35
Jun	9.44	Jun	7.62	Jun	7.70	Jun	6.21
Jul	9.40	Jul	7.73	Jul	7.66	Jul	6.54
Aug	9.16	Aug	7.86	Aug	7.86	Aug	6.78
Sep	9.03	Sep	7.62	Sep	7.87	Sep	6.58
Oct	8.99	Oct	7.46	Oct	8.02		
Nov	8.93	Nov	7.40	Nov	7.86		
Dec	8.76	Dec	7.21	Dec	8.04		

Source: Mergent Bond Record

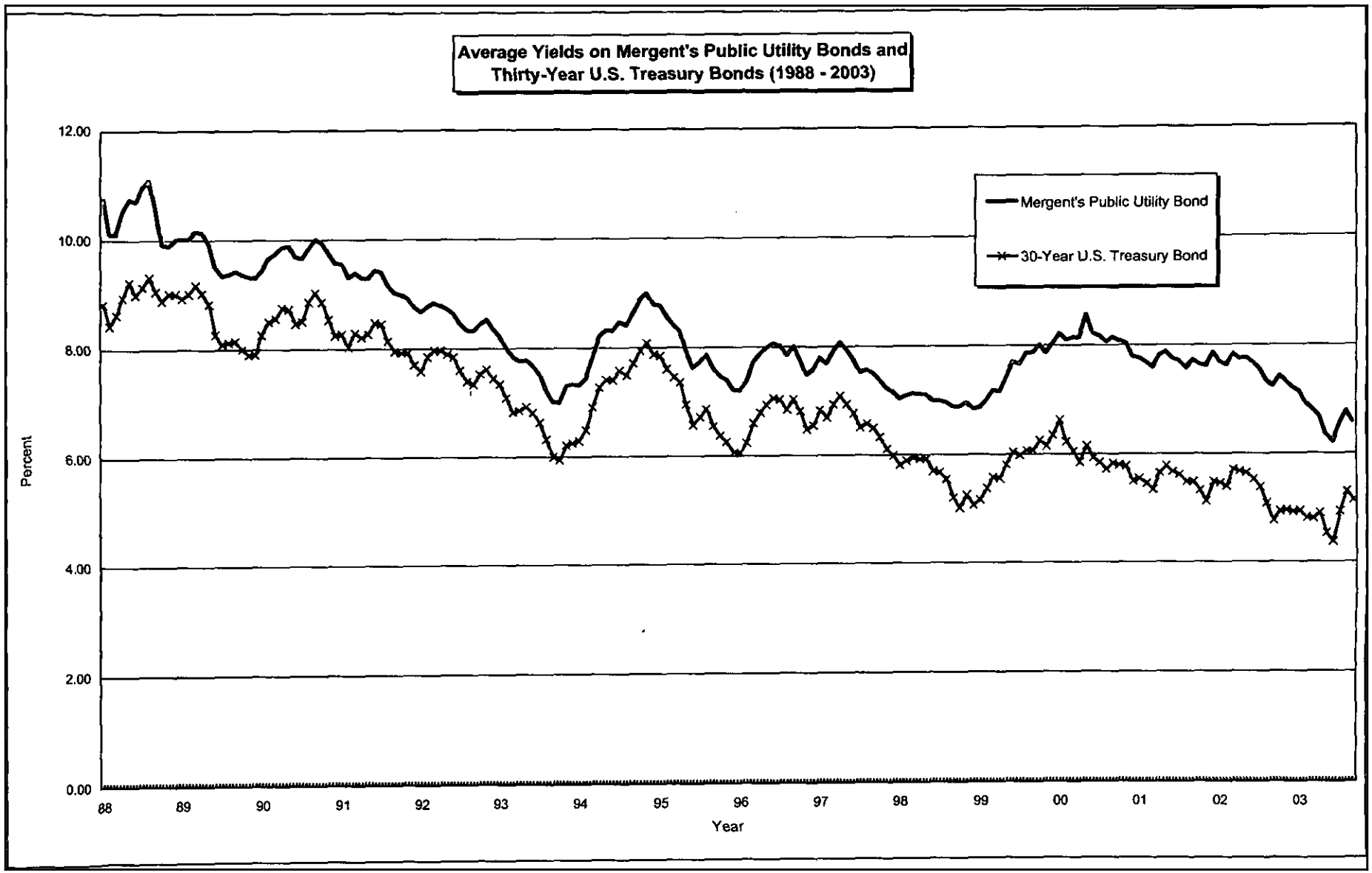
AQUILA, INC.
CASE NO. ER-2004-0034

Average Yields on Thirty-Year U.S. Treasury Bonds

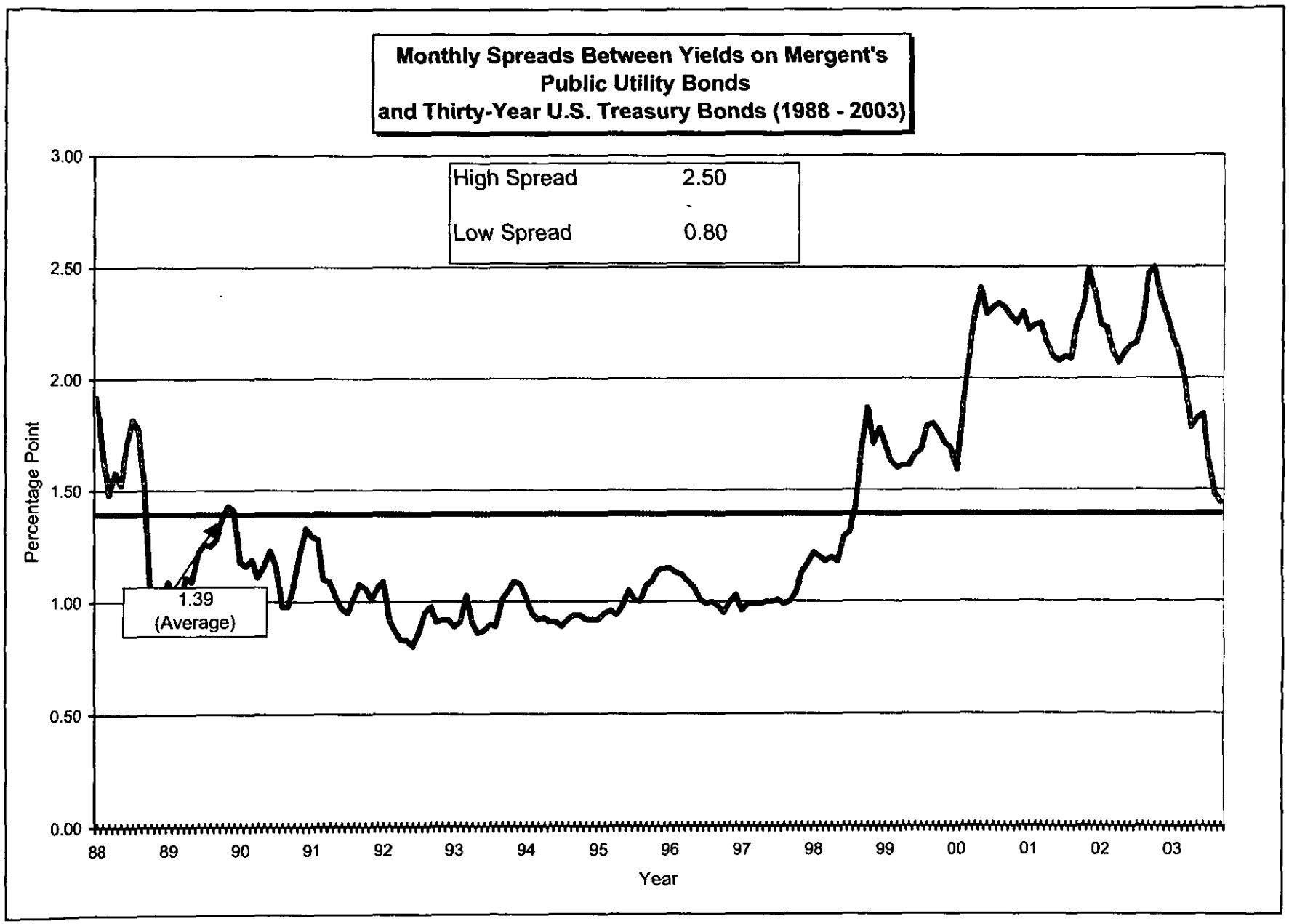
Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)
Jan 1988	8.83	Jan 1992	7.58	Jan 1996	6.05	Jan 2000	6.63
Feb	8.43	Feb	7.85	Feb	6.24	Feb	6.23
Mar	8.63	Mar	7.97	Mar	6.60	Mar	6.05
Apr	8.95	Apr	7.96	Apr	6.79	Apr	5.85
May	9.23	May	7.89	May	6.93	May	6.15
Jun	9.00	Jun	7.84	Jun	7.06	Jun	5.93
Jul	9.14	Jul	7.60	Jul	7.03	Jul	5.85
Aug	9.32	Aug	7.39	Aug	6.84	Aug	5.72
Sep	9.06	Sep	7.34	Sep	7.03	Sep	5.83
Oct	8.89	Oct	7.53	Oct	6.81	Oct	5.80
Nov	9.02	Nov	7.61	Nov	6.48	Nov	5.78
Dec	9.01	Dec	7.44	Dec	6.55	Dec	5.49
Jan 1989	8.93	Jan 1993	7.34	Jan 1997	6.83	Jan 2001	5.54
Feb	9.01	Feb	7.09	Feb	6.69	Feb	5.45
Mar	9.17	Mar	6.82	Mar	6.93	Mar	5.34
Apr	9.03	Apr	6.85	Apr	7.09	Apr	5.65
May	8.83	May	6.92	May	6.94	May	5.78
Jun	8.27	Jun	6.81	Jun	6.77	Jun	5.67
Jul	8.08	Jul	6.63	Jul	6.51	Jul	5.61
Aug	8.12	Aug	6.32	Aug	6.58	Aug	5.48
Sep	8.15	Sep	6.00	Sep	6.50	Sep	5.48
Oct	8.00	Oct	5.94	Oct	6.33	Oct	5.32
Nov	7.90	Nov	6.21	Nov	6.11	Nov	5.12
Dec	7.90	Dec	6.25	Dec	5.99	Dec	5.48
Jan 1990	8.26	Jan 1994	6.29	Jan 1998	5.81	Jan 2002	5.45
Feb	8.50	Feb	6.49	Feb	5.89	Feb	5.39
Mar	8.56	Mar	6.91	Mar	5.95	Mar	5.71
Apr	8.76	Apr	7.27	Apr	5.92	Apr	5.67
May	8.73	May	7.41	May	5.93	May	5.64
Jun	8.46	Jun	7.40	Jun	5.70	Jun	5.52
Jul	8.50	Jul	7.58	Jul	5.68	Jul	5.38
Aug	8.86	Aug	7.49	Aug	5.54	Aug	5.08
Sep	9.03	Sep	7.71	Sep	5.20	Sep	4.76
Oct	8.86	Oct	7.94	Oct	5.01	Oct	4.93
Nov	8.54	Nov	8.08	Nov	5.25	Nov	4.95
Dec	8.24	Dec	7.87	Dec	5.06	Dec	4.92
Jan 1991	8.27	Jan 1995	7.85	Jan 1999	5.16	Jan 2003	4.94
Feb	8.03	Feb	7.61	Feb	5.37	Feb	4.81
Mar	8.29	Mar	7.45	Mar	5.58	Mar	4.80
Apr	8.21	Apr	7.36	Apr	5.55	Apr	4.90
May	8.27	May	6.95	May	5.81	May	4.53
Jun	8.47	Jun	6.57	Jun	6.04	Jun	4.37
Jul	8.45	Jul	6.72	Jul	5.98	Jul	4.93
Aug	8.14	Aug	6.86	Aug	6.07	Aug	5.30
Sep	7.95	Sep	6.55	Sep	6.07	Sep	5.14
Oct	7.93	Oct	6.37	Oct	6.26	Oct	5.16
Nov	7.92	Nov	6.26	Nov	6.15		
Dec	7.70	Dec	6.06	Dec	6.35		

Source: http://www.investopedia.com/offsite.asp?URL=http://quote.yahoo.com/q?s=%5ETYX&d=1y

SCHEDULE 5-2


Average Yields on Mergent's Public Utility Bonds and Thirty-Year U.S. Treasury Bonds (1988 - 2003)
12.00
10.00
8.00
6.00
4.00
2.00
0.00
Percent
88
89
90
91
92
93
94
95
96
97
98
99
00
01
02
03
Year
Mergent's Public Utility Bond
30-Year U.S. Treasury Bond

SCHEDULE 5-3


Monthly Spreads Between Yields on Mergent's
Public Utility Bonds
and Thirty-Year U.S. Treasury Bonds (1988 - 2003)
High Spread 2.50
Low Spread 0.80
1.39
(Average)
Percentage Point
3.00
2.50
2.00
1.50
1.00
0.50
0.00
88
89
90
91
92
93
94
95
96
97
98
99
00
01
02
03
Year

AQUILA, INC.
CASE NO. ER-2004-0034

Economic Estimates and Projections, 2003 - 2005

	Inflation Rate			Real GDP			Unemployment			3-Mo. T-Bill Rate			30-Yr. T-Bond Rate		
Source	2003	2004	2005	2003	2004	2005	2003	2004	2005	2003	2004	2005	2003	2004	2005
Value Line Investment Survey (08/29/03)	1.90%	2.00%	2.10%	2.30%	3.70%	3.70%	6.10%	6.00%	5.70%	1.10%	1.60%	2.00%	5.10%	5.60%	6.00%
The Budget and Economic Outlook FY2003-2013	2.30%	1.90%	2.40%	2.20%	3.80%	3.50%	6.20%	6.20%	5.70%	1.00%	1.70%	3.20%	N.A.	N.A.	N.A.
Current rate	2.30%			7.20%			6.10%			0.96%			5.16%		

Notes: N.A. = Not Available.

Sources of Current Rates:

The Bureau of Labor Statistics, Consumer Price Index - All Urban Consumers, 12-Month Period Ending October 31, 2003.
Investopedia, 30-Year U.S. Treasury Bond Rate, http://www.investopedia.com/offsite.asp?URL=http://quote.yahoo.com/q?s=%5ETYX&d=1y as of October 16, 2003.
The Federal Reserve Bank of St. Louis, 3-Month Treasury Bill Rate, http://research.stlouisfed.org/fred2/data/GS3M.txt as of September 01, 2003.
U.S. Department of Commerce, Bureau of Economic Analysis, Real GDP for the 3-month period ending September 30, 2003.
The Bureau of Labor Statistics, Economy at a Glance - Unemployment Rate as of September 2003.

Other Sources:

The Congressional Budget Office, The Budget and Economic Outlook: Fiscal Years 2003-2013
http://www.cbo.gov/showdoc.cfm?index=2727&sequence=11.

SCHEDULE 6

AQUILA, INC.
CASE NO. ER-2004-0034

Historical Capital Structures for Aquila, Inc.
Consolidated Basis
(Dollars in Millions)

Capital Components		1998	1999	2000	2001	2002
Common Equity		$1,446	$1,525	$1,800	$2,552	$1,608
Preferred Stock		$100	$350	$450	$250	$0
Long-Term Debt	*	$1,625	$2,245	$2,398	$2,427	$2,929
Short-Term Debt		$236	$249	$501	$549	$301
Total		$3,407	$4,369	$5,148	$5,778	$4,838

Capital Structure		1998	1999	2000	2001	2002
Common Equity		42.46%	34.91%	34.96%	44.17%	33.24%
Preferred Stock		2.95%	8.01%	8.74%	4.33%	0.00%
Long-Term Debt	*	47.69%	51.38%	46.57%	42.00%	60.54%
Short-Term Debt		6.90%	5.70%	9.73%	9.50%	6.22%
Total		100.00%	100.00%	100.00%	100.00%	100.00%

Notes: *The amount of Long-Term Debt includes Current Maturities.

Source: Aquila, Inc.'s Stockholders Annual Reports.

SCHEDULE 7

AQUILA, INC.
CASE NO. ER-2004-0034

Selected Financial Ratios for Aquila, Inc.
Consolidated Basis

Financial Ratios	1998	1999	2000	2001	2002
Return on Ending Common Equity	11.43%	10.80%	13.46%	11.70%	-129.06% *
Earnings Per Common Share	$1.63	$1.75	$1.91	$2.01	-$2.35
Cash Dividends Per Common Share	$1.20	$1.20	$1.20	$1.20	$0.78
Common Dividend Payout Ratio	73.62%	68.57%	62.83%	59.70%	N.M.
Year-End Market Price Per Common Share	$24.46	$19.44	$31.00	$17.10	$1.77
Year-End Book Value Per Common Share	$15.83	$16.34	$17.94	$22.01	$8.30
Year-End Market to Book Ratio	1.55 x	1.19 x	1.73 x	0.78 x	0.21 x
Pre-Tax Interest Coverage Ratio	2.65 x	2.23 x	2.51 x	3.16 x	Negative x
Senior Debt Rating	BBB	BBB	BBB	BBB	BB

* Because the financial data was not directly provided in Aquila, Inc.'s 2002 Annual Report, the following formula was used to calculate Return on Ending Common Equity:
Return on Ending Common Equity = Net Income Available for Common Stock / Ending Common Shareholders' Equity.

Year-End Market to Book Ratio = Year-End Market Price Per Common Share / Year-End Book Value Per Common Sh

Year-End Market Price Per Common Share has been adjusted for stock splits and stock dividends.

Pre-Tax Interest Coverage Ratio = (Net Income + Income Taxes + Total Interest Expense) / Total Interest Expense.

Sources: Aquila, Inc.'s Stockholders Annual Reports.
The Value Line Investment Survey: Ratings & Reports July 04, 2003.
S&P's Stock Guides, January 2002 and January 2003.
S&P's Ratings Direct at: http://www.ratingsdirect.com/Apps/RD

Notes: N.M. = Not Meaningful

SCHEDULE 8

AQUILA, INC
CASE NO. ER-2004-0034

Capital Structure as of December 31, 2002
for Aquila, Inc.

Capital Component	Amount in Dollars		Percentage of Capital
Common Stock Equity	$1,607,879,000		35.31%
Preferred Stock	0		0.00%
Long-Term Debt	2,928,635,000	*	64.31%
Short-Term Debt	17,532,000	**	0.38%
Total Capitalization	**$4,554,046,000**		**100.00%**

Electric Financial Ratio Benchmarks
Total Debt / Total Capital - Including Preferred Stock

Standard & Poor's Corporation's Utility Rating Service, Financial Statistics as of July 7, 2000 (median)	Lower Quartile **BBB**	Median **BBB**	Upper Quartile **BBB**
	54%	60%	64%

Note: * As indicated in Aquila, Inc.'s balance sheet as of December 31, 2002.
** Short-term debt balance equals $17,532,000 as of December 31, 2002 because short-term debt of $300,963,000 exceeds CWIP of $283,431,000 by this amount.

Source: Aquila, Inc.'s response to Staff's Data Request No. MPSC-222 and MPSC-223.

SCHEDULE 9

AQUILA, INC.
CASE NO. ER-2004-0034

Aquila, Inc. Weighted Average Cost of Debt
as of December 31, 2002

LONG-TERM DEBT	ISSUE DATE YR/MO/DAY	DUE DATE YR/MO/DAY	INTEREST RATE	A ORIGINAL ISSUE	B AMOUNT OUTSTANDING	C DISCOUNT/PREMIUM & ISSUE COSTS	D=B/A*C RELATIVE COSTS	B-D NET PROCEEDS	ANNUAL INTEREST	COST OF MONEY
PNG Office Building (Fountain, CO)	December 1, 1999	December 1, 2003	11.500%	1,353,899	316,355	15,000	3,505	312,850	36,381	11.629%
SJLP FMB	November 25, 1991	February 1, 2021	9.440%	22,500,000	21,375,000	393,036	373,384	21,001,616	2,017,800	9.608%
Senior Notes	November 15, 1999	November 15, 2009	7.625%	200,000,000	200,000,000	3,160,966	3,160,966	196,839,034	15,250,000	7.747%
Senior Notes	July 14, 1999	July 15, 2004	7.000%	250,000,000	250,000,000	2,263,275	2,263,275	247,736,725	17,500,000	7.064%
Senior Notes	March 31, 1999	December 1, 2005	9.030%	20,232,000	20,232,000	613,622	613,622	19,618,378	1,826,950	9.312%
Senior Notes	March 31, 1999	November 15, 2021	8.270%	131,750,000	80,850,000	3,591,143	2,203,749	78,646,251	6,686,295	8.502%
Senior Notes	October 7, 1997	October 1, 2004	6.875%	150,000,000	150,000,000	1,168,368	1,168,368	148,831,632	10,312,500	6.929%
Senior Notes	October 17, 1996	October 15, 2006	6.700%	100,000,000	85,900,000	666,537	572,555	85,327,445	5,755,300	6.745%
Wamego Ser.1996	March 1, 1996	March 1, 2026	1.600%	7,300,000	7,300,000	422,982	422,982	6,877,018	116,800	1.698%
Sanwa Bus CC	December 9, 1995	December 9, 2009	6.990%	8,190,000	5,069,162	35,000	21,663	5,047,499	354,334	7.020%
SJLP Unsecured Pollution Control Bonds	June 4, 1995	February 1, 2013	5.850%	5,600,000	5,600,000	534,263	534,263	5,065,737	327,600	6.467%
SJLP Unsecured MTN	March 15, 1995	March 15, 2005	8.360%	20,000,000	20,000,000	144,144	144,144	19,855,856	1,672,000	8.421%
SJLP Unsecured MTN	December 6, 1993	December 1, 2023	7.170%	7,000,000	7,000,000	230,365	230,365	6,769,635	501,900	7.414%
SJLP Unsecured MTN	November 30, 1993	November 30, 2023	7.330%	3,000,000	3,000,000	98,728	98,728	2,901,272	219,900	7.579%
SJLP Unsecured MTN	November 30, 1993	November 29, 2013	7.160%	9,000,000	9,000,000	296,184	296,184	8,703,816	644,400	7.404%
SJLP Unsecured MTN	November 30, 1993	November 29, 2013	7.130%	1,000,000	1,000,000	32,909	32,909	967,091	71,300	7.373%
State Envi.1993	May 26, 1993	May 1, 2028	1.650%	5,000,000	5,000,000	111,563	111,563	4,888,437	82,500	1.688%
Senior Notes	March 3, 1993	March 1, 2023	8.000%	125,000,000	51,500,000	1,982,502	816,791	50,683,209	4,120,000	8.129%
Senior Notes	January 29, 1992	January 15, 2007	8.200%	130,000,000	36,905,000	1,314,709	373,226	36,531,774	3,026,210	8.284%
Senior Notes	November 25, 1991	November 15, 2021	9.000%	150,000,000	5,000,000	5,017,642	167,255	4,832,745	450,000	9.311%
Senior Notes	February 1, 2001	February 1, 2011	9.950%	250,000,000	250,000,000	1,880,959	1,880,959	248,119,041	24,875,000	10.025%
QUIBS	February 28, 2002	March 1, 2032	7.875%	287,500,000	287,500,000	9,432,634	9,432,634	278,067,366	22,640,625	8.142%
Debentures	July 24, 1986	July 1, 2011	6.625%	50,000,000	3,543,000	2,626,347	186,103	3,356,897	234,724	6.992%
Canada										
UNCL Bank Facility	June 5, 2001	June 5, 2003	4.960%	167,975,550	78,599,880	535,275	250,468	78,349,412	3,898,554	4.976%
Farmer Electric Services Ltd	January 1, 2000	December 31, 2003	6.500%	4,630,368	4,399,111	0	0	4,399,111	285,942	6.500%
ANCA Securitization	August 15, 2002	February 15, 2004	3.460%	163,429,500	107,645,833	759,138	500,020	107,145,813	3,724,546	3.476%
ANCBC C$20m Evergreen Facility	May 30, 2002	May 29, 2005	3.700%	12,970,820	12,671,061	41,493	40,534	12,630,527	468,829	3.712%
WKP Series I	July 19, 2002	July 31, 2009	6.750%	32,393,910	31,693,500	287,873	281,649	31,411,851	2,139,311	6.811%
WKP Series E	January 9, 1990	December 1, 2009	11.000%	10,008,000	5,229,428	40,833	21,336	5,208,092	575,237	11.045%
UCFC 7.75% Senior Notes	June 20, 2001	June 15, 2011	7.750%	200,000,000	200,000,000	1,126,813	1,126,813	198,873,187	15,500,000	7.794%
WKP Series F	October 19, 1992	October 16, 2012	9.650%	10,008,000	9,508,050	103,416	98,250	9,409,800	917,527	9.751%
Walden Mortgage Loan	December 1, 1994	August 31, 2013	9.440%	6,794,098	4,969,823	0	0	4,969,823	469,151	9.440%
WKP Series H	March 1, 1996	February 1, 2016	8.770%	16,680,000	15,846,750	116,760	110,927	15,735,823	1,389,760	8.832%
WKP Series I	April 1, 1997	December 1, 2021	7.810%	16,680,000	15,846,750	116,760	110,927	15,735,823	1,237,631	7.865%
WKP Series G	August 25, 1993	August 28, 2023	8.800%	16,680,000	15,846,750	116,760	110,927	15,735,823	1,394,514	8.862%
United Kingdom										
Aquila Europe Inc	May 8, 2002	May 8, 2008	8.15%	84,466,419.45	87,436,516	-	-	87,436,516	7,126,076	8.150%
Total Aquila Long-Term Debt Excluding Australia				**2,677,142,564**	**2,095,783,969**	**39,277,998**	**27,761,044**	**2,068,022,925**	**157,849,598**	**7.633%**

Source: Response to Staff's Data Information Request No. MPSC 223 and MPSC 532.

SCHEDULE 10

AQUILA, INC.
CASE NO. ER-2004-0034

Criteria for Selecting Comparable Electric Utility Companies

Electric Utility Companies	(1) Stock Publicly Traded	(2) Information Printed In Value Line	(3) Total Capitalization <$5 Billion	(4) ≥ 70% of Revenues from Electric	(5) 10-Years of Data Available	(6) No Nuclear Operations	(7) At Least Investment Grade Credit Rating	(8) No Missouri Operations	(9) Comparable Company Met All Criteria
Allegheny Energy	Yes	Yes	No						
ALLETE	Yes	Yes	Yes	No					
Alliant Energy	Yes	Yes	Yes	No					
Amer. Elec. Power	Yes	Yes	No						
Ameren Corp.	Yes	Yes	No						
Aquila, Inc.	Yes	Yes	Yes	No					
Avista Corp.	Yes	Yes	Yes	Yes	Yes	Yes	No		
BayCorp Holdings Limited	Yes	Yes	Yes	N/A					
Black Hills	Yes	Yes	Yes	No					
CenterPoint Energy	Yes	Yes	No						
Cen. Vermont Pub. Serv.	Yes	Yes	Yes	Yes	Yes	No			
CH Energy Group	Yes	Yes	Yes	No					
Cinergy Corp.	Yes	Yes	No						
Duke Energy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
CMS Energy Corp.	Yes	Yes	No						
Conectiv Inc.	Yes	No							
Consol. Edison	Yes	Yes	No						
Constellation Energy	Yes	Yes	No						
Dominion Resources	Yes	Yes	No						
DPL Inc.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
DQE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
DTE Energy	Yes	Yes	No						
Duke Energy	Yes	Yes	No						
Edison Int'l	Yes	Yes	No						
El Paso Electric	Yes	Yes	Yes	Yes	No				
Empire Dist. Electric	Yes	Yes	Yes	Yes	Yes	Yes	No		
Energy East Corp.	Yes	Yes	No						
Entergy Corp.	Yes	Yes	No						
Exelon Corp.	Yes	Yes	No						
FirstEnergy Corp.	Yes	Yes	No						
Florida Public Utilities	Yes	Yes	Yes	No					
Fortis Inc.	Yes	No							
FPL Group	Yes	Yes	No						
Great Plains Energy	Yes	Yes	Yes	No					
Green Mountain Power	Yes	Yes	Yes	Yes	Yes	No			
Hawaiian Electric	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
IDACORP, Inc.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
KFX Inc	Yes	Yes	Yes	N/A					
Maine & Maritimes Corp	Yes	Yes	Yes	Yes	Yes	Yes	NR		
MDU Resources	Yes	Yes	Yes	No					
MGE Energy	Yes	Yes	Yes	No					
NewPower Holding Inc.	Yes	Yes	Yes	N/A					
NiSource Inc.	Yes	Yes	No						
Northeast Utilities	Yes	Yes	No						
NorthWestern Corp.	Yes	Yes	Yes	No					
NSTAR	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
OGE Energy	Yes	Yes	Yes	No					
Otter Tail Corp.	Yes	Yes	Yes	No					
Pepco Holdings	Yes	Yes	No						
Pinnacle West Capital	Yes	Yes	No						
PG&E Corp.	Yes	Yes	No						
PNM Resources	Yes	Yes	Yes	Yes	Yes	No			
PPL Corp.	Yes	Yes	No						
Progress Energy	Yes	Yes	No						
Public Serv. Enterprise	Yes	Yes	No						
Puget Energy Inc.	Yes	Yes	Yes	No					
SCANA Corp.	Yes	Yes	No						
Sempra Energy	Yes	Yes	No						
Sierra Pacific Res	Yes	Yes	Yes	Yes	Yes	Yes	No		
Southern Co.	Yes	Yes	No						
TECO Energy	Yes	Yes	No						
TXU Corp.	Yes	Yes	No						
U.S. Energy Sys Inc.	Yes	Yes	Yes	N/A					
UIL Holdings	Yes	Yes	Yes	No					
UniSource Energy	Yes	Yes	Yes	Yes	Yes	Yes	NR		
UNITIL Corp.	Yes	Yes	Yes	Yes	Yes	Yes	No		
Vectren Corp	Yes	Yes	Yes	Yes	No				
Westar Energy	Yes	Yes	Yes	Yes	Yes	No			
Wilmington Capital Management	Yes	Yes	Yes	N/A					
Wisconsin Energy	Yes	Yes	No						
WPS Resources	Yes	Yes	Yes	No					
Xcel Energy Inc.	Yes	Yes	No						

Sources: Columns 1, 2, 3, 5 and 6 – The Value Line Investment Survey: Ratings & Reports, August 15, September 5, and October 3, 2003.
Column 4 – C.A. Turner Utility Reports, October 2003.
Column 7 – Standard & Poor's RatingsDirect

Notes: NR–Not Rated by Standard & Poor's
N/A–Not Available from C.A. Turner Utility Reports

Schedule 11

AQUILA, INC.
CASE NO. ER-2004-0034

Comparable Electric Utility Companies
For Aquila, Inc. d/b/a Aquila Networks MPS

Number	Ticker Symbol	Company Name
1	CNL	Cleco Corporation
2	DPL	DPL Inc.
3	DQE	DQE, Inc.
4	HE	Hawaiian Electric Industries, Inc.
5	IDA	IDACORP, Inc.
6	NST	NSTAR

SCHEDULE 12

AQUILA, INC.
CASE NO. ER-2004-0034

Ten-Year Dividends Per Share, Earnings Per Share & Book Value Per Share Growth Rates
for Comparable Electric Utility Companies

	Dividends Per Share		Earnings Per Share		Book Value Per Share	
Company Name	1992	2002	1992	2002	1992	2002
Cleco Corporation	$0.69	$0.90	$0.97	$1.52	$7.06	$11.77
DPL Inc.	$0.72	$0.94	$0.89	$0.72	$6.44	$6.38
DQE, Inc.	$1.03	$1.34	$1.78	$1.23	$14.75	$6.09
Hawaiian Electric Industries, Inc.	$2.25	$2.48	$2.54	$3.24	$22.12	$28.43
IDACORP, Inc.	$1.86	$1.86	$1.55	$1.63	$17.28	$23.01
NSTAR	$1.66	$2.13	$2.10	$3.38	$18.77	$24.50

Annual Compound Growth Rates

	DPS	EPS	BVPS	
Company Name	1992 - 2002	1992 - 2002	1992 - 2002	Average
Cleco Corporation	2.69%	4.59%	5.24%	4.18%
DPL Inc.	2.70%	-2.10%	-0.09%	0.17%
DQE, Inc.	2.67%	-3.63%	-8.47%	-3.14%
Hawaiian Electric Industries, Inc.	0.98%	2.46%	2.54%	1.99%
IDACORP, Inc.	0.00%	0.50%	2.91%	1.14%
NSTAR	2.52%	4.87%	2.70%	3.37%
Average	**1.93%**	**1.12%**	**0.81%**	
Standard Deviation	1.06%	3.20%	4.42%	

Source: The Value Line Investment Survey: Ratings & Reports, August 15, September 5, and October 3, 2003.

SCHEDULE 13-1

AQUILA, INC.
CASE NO. ER-2004-0034

Five-Year Dividends Per Share, Earnings Per Share & Book Value Per Share Growth Rates for the Comparable Electric Utility Companies

	Dividends Per Share		Earnings Per Share		Book Value Per Share	
Company Name	1997	2002	1997	2002	1997	2002
Cleco Corporation	$0.79	$0.90	$1.09	$1.52	$8.68	$11.77
DPL Inc.	$0.91	$0.94	$1.20	$0.72	$8.03	$6.38
DQE, Inc.	$1.38	$1.34	$2.40	$1.23	$19.30	$6.09
Hawaiian Electric Industries, Inc.	$2.44	$2.48	$2.76	$3.24	$25.54	$28.43
IDACORP, Inc.	$1.86	$1.86	$2.32	$1.63	$18.93	$23.01
NSTAR	$1.88	$2.13	$2.71	$3.38	$21.96	$24.50

Annual Compound Growth Rates

	DPS	EPS	BVPS	
Company Name	1997 - 2002	1997 - 2002	1997 - 2002	Average
Cleco Corporation	2.64%	6.88%	6.28%	5.27%
DPL Inc.	0.65%	-9.71%	-4.50%	-4.52%
DQE, Inc.	-0.59%	-12.51%	-20.60%	-11.23%
Hawaiian Electric Industries, Inc.	0.33%	3.26%	2.17%	1.92%
IDACORP, Inc.	0.00%	-6.82%	3.98%	-0.95%
NSTAR	2.53%	4.52%	2.21%	3.09%
Average	**0.93%**	**-2.40%**	**-1.74%**	
Standard Deviation	1.23%	7.54%	9.05%	

Source: The Value Line Investment Survey: Ratings & Reports, August 15, September 5, and October 3, 2003.

SCHEDULE 13-2

AQUILA, INC.
CASE NO. ER-2004-0034

Average of Ten and Five-Year Dividends Per Share, Earnings Per Share & Book Value Per Share Growth Rates for the Comparable Electric Utility Companies

Company Name	10-Year Average DPS, EPS & BVPS	5-Year Average DPS, EPS & BVPS	Average of 5-Year & 10-Year Averages
Cleco Corporation	4.18%	5.27%	4.72%
DPL Inc.	0.17%	-4.52%	-2.17%
DQE, Inc.	-3.14%	-11.23%	-7.19%
Hawaiian Electric Industries, Inc.	1.99%	1.92%	1.96%
IDACORP, Inc.	1.14%	-0.95%	0.10%
NSTAR	3.37%	3.09%	3.23%
Average	**1.28%**	**-1.07%**	**0.11%**

SCHEDULE 13-3

AQUILA, INC.
CASE NO. ER-2004-0034

Historical and Projected Growth Rates
for the Comparable Electric Utility Companies

Company Name	(1) Historical Growth Rate (DPS, EPS and BVPS)	(2) Projected 5 Year Growth IBES (Median)	(3) Projected 5-Year EPS Growth S&P	(4) Projected 3-5 Year EPS Growth Value Line	(5) Average Projected Growth	(6) Average of Historical & Projected Growth
Cleco Corporation	4.72%	5.00%	5.00%	0.00%	3.33%	4.03%
DPL Inc.	-2.17%	4.50%	5.00%	6.00%	5.17%	1.50%
DQE, Inc.	-7.19%	4.00%	4.00%	7.50%	5.17%	-1.01%
Hawaiian Electric Industries, Inc.	1.96%	2.50%	3.00%	0.00%	1.83%	1.89%
IDACORP, Inc.	0.10%	7.00%	7.00%	-11.00%	1.00%	0.55%
NSTAR	3.23%	6.00%	6.00%	3.50%	5.17%	4.20%
Average	**0.11%**	**4.83%**	**5.00%**	**1.00%**	**3.61%**	**1.86%**

Proposed Range of Growth: 3.10%-4.10%

Column 5 = [(Column 2 + Column 3 + Column 4) / 3]

Column 6 = [(Column 1 + Column 5) / 2]

Sources: Column 1 = Average of 10-Year and 5-Year Annual Compound Growth Rates from Schedule 13-3.

Column 2 = I/B/E/S Inc.'s Institutional Brokers Estimate System, October 16, 2003.

Column 3 = Standard & Poor's Earnings Guide, November 2003.

Column 4 = The Value Line Investment Survey: Ratings and Reports, August 15, September 5, and October 3, 2003.

SCHEDULE 14

AQUILA, INC.
CASE NO. ER-2004-0034

Average High / Low Stock Price for June 2003 through September 2003
for the Comparable Electric Utility Companies

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	-- June 2003 --		-- July 2003 --		-- August 2003 --		-- September 2003 --		**Average High/Low Stock Price (6/03 - 9/03)**
Company Name	High Stock Price	Low Stock Price	High Stock Price	Low Stock Price	High Stock Price	Low Stock Price	High Stock Price	Low Stock Price	
Cleco Corporation	18.130	17.120	17.840	15.500	16.250	14.850	16.790	15.580	**16.508**
DPL Inc.	17.000	15.700	16.330	14.530	15.620	14.350	17.290	15.520	**15.793**
DQE, Inc.	16.730	15.000	15.330	13.710	14.840	13.680	15.740	14.850	**14.985**
Hawaiian Electric Industries, Inc.	46.490	45.070	45.950	42.320	42.990	41.250	44.670	42.880	**43.953**
IDACORP, Inc.	27.790	26.120	27.250	25.450	26.850	23.150	25.710	24.050	**25.796**
NSTAR	47.400	44.500	46.300	43.630	45.470	44.010	48.340	44.580	**45.529**

Notes:

Column 9 = [(Column 1 + Column 2 + Column 3 + Column 4 + Column 5 + Column 6 + Column 7 + Column 8) / 8].

Sources: S & P Stock Guides: July 2003, August 2003, September 2003 and October 2003.

SCHEDULE 15

AQUILA, INC.
CASE NO. ER-2004-0034

DCF Estimated Costs of Common Equity
for the Comparable Electric Utility Companies

	(1)	(2)	(3)	(4)	(5)
Company Name	Expected Annual Dividend	Average High/Low Stock Price	Projected Dividend Yield	Average of Historical & Projected Growth	Estimated Cost of Common Equity
Cleco Corporation	$0.90	$16.508	5.45%	4.03%	9.48%
DPL Inc.	$0.94	$15.793	5.95%	1.50%	7.45%
DQE, Inc.	$1.00	$14.985	6.67%	-1.01%	5.66%
Hawaiian Electric Industries, Inc.	$2.48	$43.953	5.64%	1.89%	7.54%
IDACORP, Inc.	$1.22	$25.796	4.71%	0.55%	5.26%
NSTAR	$2.19	$45.529	4.81%	4.20%	9.01%
Average			5.54%	1.86%	7.40%

Proposed Dividend Yield: **5.54%**

Proposed Range of Growth: **3.10% - 4.10%**

Estimated Cost of Common Equity: **8.64%-9.64%**

Notes: Column 1 = Estimated Dividends Declared per share represents the average projected dividends for 2003 and 2004.

Column 3 = (Column 1 / Column 2).

Column 5 = (Column 3 + Column 4).

Sources: Column 1 = The Value Line Investment Survey: Ratings & Reports, August 15, September 5, and October 3, 2003.

Column 2 = Schedule 15.

Column 4 = Schedule 14.

AQUILA, INC.
CASE NO. ER-2004-0034

Capital Asset Pricing Model (CAPM) Costs of Common Equity Estimates for the Comparable Electric Utility Companies

Company Name	(1) Risk Free Rate	(2) Company's Value Line Beta	(3) Market Risk Premium (1926-2002)	(4) Market Risk Premium (1993-2002)	(5) CAPM Cost of Common Equity (1926-2002)	(6) CAPM Cost of Common Equity (1993-2002)
Cleco Corporation	5.16%	0.90	6.40%	-0.34%	10.92%	4.85%
DPL Inc.	5.16%	0.80	6.40%	-0.34%	10.28%	4.89%
DQE, Inc.	5.16%	0.65	6.40%	-0.34%	9.32%	4.94%
Hawaiian Electric Industries, Inc.	5.16%	0.55	6.40%	-0.34%	8.68%	4.97%
IDACORP, Inc.	5.16%	0.75	6.40%	-0.34%	9.96%	4.91%
NSTAR	5.16%	0.65	6.40%	-0.34%	9.32%	4.94%
Average		**0.72**			**9.75%**	**4.92%**

Sources:

Column 1 = The appropriate yield is equal to the average 30-year U.S. Treasury Bond yield for October 2003 which was obtained from Investopedia at: http://www.investopedia.com

Column 2 = Beta is a measure of the movement and relative risk of an individual stock to the market as a whole as reported by the Value Line Investment Survey: Ratings & Reports, August 15, September 5, and October 3, 2003.

Column 3 = The Market Risk Premium represents the expected return from holding the entire market portfolio less the expected return from holding a risk free investment. The appropriate Market Risk Premium for the period 1926 - 2002 was determined to be 6.40% as calculated in Ibbotson Associates, Inc.'s Stocks, Bonds, Bills, and Inflation: 2003 Yearbook.

Column 4 = The Market Risk Premium represents the expected return from holding the entire market portfolio less the expected return from holding a risk free investment. The appropriate Market Risk Premium for the period 1993 - 2002 was determined to be -.34% as calculated in Ibbotson Associates, Inc.'s Stocks, Bonds, Bills, and Inflation: 2003 Yearbook.

Column 5 = (Column 1 + (Column 2 * Column 3)).

Column 6 = (Column 1 + (Column 2 * Column 4)).

SCHEDULE 17

AQUILA, INC.
CASE NO. ER-2004-0034

Average Risk Premium above the Yields of 30-Year U.S. Treasury Bonds for Cleco Corporation's Actual Returns on Common Equity

Mo/Year	Cleco Corporation's Actual ROE	30-Year U.S. Treasury Bond Yields	Cleco Corporation's Risk Premium
Jan 1993	12.20%	7.34%	4.86%
Feb	12.20%	7.09%	5.11%
Mar	12.20%	6.82%	5.38%
Apr	12.20%	6.85%	5.35%
May	12.20%	6.92%	5.28%
Jun	12.20%	6.81%	5.39%
Jul	12.20%	6.63%	5.57%
Aug	12.20%	6.32%	5.88%
Sep	12.20%	6.00%	6.20%
Oct	12.20%	5.94%	6.26%
Nov	12.20%	6.21%	5.99%
Dec	12.20%	6.25%	5.95%
Jan 1994	12.70%	6.29%	6.41%
Feb	12.70%	6.49%	6.21%
Mar	12.70%	6.91%	5.79%
Apr	12.70%	7.27%	5.43%
May	12.70%	7.41%	5.29%
Jun	12.70%	7.40%	5.30%
Jul	12.70%	7.58%	5.12%
Aug	12.70%	7.49%	5.21%
Sep	12.70%	7.71%	4.99%
Oct	12.70%	7.94%	4.76%
Nov	12.70%	8.08%	4.62%
Dec	12.70%	7.87%	4.83%
Jan 1995	13.20%	7.85%	5.35%
Feb	13.20%	7.61%	5.59%
Mar	13.20%	7.45%	5.75%
Apr	13.20%	7.36%	5.84%
May	13.20%	6.95%	6.25%
Jun	13.20%	6.57%	6.63%
Jul	13.20%	6.72%	6.48%
Aug	13.20%	6.86%	6.34%
Sep	13.20%	6.55%	6.65%
Oct	13.20%	6.37%	6.83%
Nov	13.20%	6.26%	6.94%
Dec	13.20%	6.06%	7.14%
Jan 1996	13.40%	6.05%	7.35%
Feb	13.40%	6.24%	7.16%
Mar	13.40%	6.60%	6.80%
Apr	13.40%	6.79%	6.61%
May	13.40%	6.93%	6.47%
Jun	13.40%	7.06%	6.34%
Jul	13.40%	7.03%	6.37%
Aug	13.40%	6.84%	6.56%
Sep	13.40%	7.03%	6.37%
Oct	13.40%	6.81%	6.59%
Nov	13.40%	6.48%	6.92%
Dec	13.40%	6.55%	6.85%
Jan 1997	12.90%	6.83%	6.07%
Feb	12.90%	6.69%	6.21%
Mar	12.90%	6.93%	5.97%
Apr	12.90%	7.09%	5.81%
May	12.90%	6.94%	5.96%
Jun	12.90%	6.77%	6.13%
Jul	12.90%	6.51%	6.39%
Aug	12.90%	6.58%	6.32%
Sep	12.90%	6.50%	6.40%
Oct	12.90%	6.33%	6.57%
Nov	12.90%	6.11%	6.79%
Dec	12.90%	5.99%	6.91%

Mo/Year	Cleco Corporation's Actual ROE	30-Year U.S. Treasury Bond Yields	Cleco Corporation's Risk Premium
Jan 1998	12.70%	5.81%	6.89%
Feb	12.70%	5.89%	6.81%
Mar	12.70%	5.95%	6.75%
Apr	12.70%	5.92%	6.78%
May	12.70%	5.93%	6.77%
Jun	12.70%	5.70%	7.00%
Jul	12.70%	5.68%	7.02%
Aug	12.70%	5.54%	7.16%
Sep	12.70%	5.20%	7.50%
Oct	12.70%	5.01%	7.69%
Nov	12.70%	5.25%	7.45%
Dec	12.70%	5.06%	7.64%
Jan 1999	12.90%	5.16%	7.74%
Feb	12.90%	5.37%	7.53%
Mar	12.90%	5.58%	7.32%
Apr	12.90%	5.55%	7.35%
May	12.90%	5.81%	7.09%
Jun	12.90%	6.04%	6.86%
Jul	12.90%	5.98%	6.92%
Aug	12.90%	6.07%	6.83%
Sep	12.90%	6.07%	6.83%
Oct	12.90%	6.26%	6.64%
Nov	12.90%	6.15%	6.75%
Dec	12.90%	6.35%	6.55%
Jan 2000	14.90%	6.63%	8.27%
Feb	14.90%	6.23%	8.67%
Mar	14.90%	6.05%	8.85%
Apr	14.90%	5.85%	9.05%
May	14.90%	6.15%	8.75%
Jun	14.90%	5.93%	8.97%
Jul	14.90%	5.85%	9.05%
Aug	14.90%	5.72%	9.18%
Sep	14.90%	5.83%	9.07%
Oct	14.90%	5.80%	9.10%
Nov	14.90%	5.78%	9.12%
Dec	14.90%	5.49%	9.41%
Jan 2001	14.60%	5.54%	9.06%
Feb	14.60%	5.45%	9.15%
Mar	14.60%	5.33%	9.27%
Apr	14.60%	5.64%	8.96%
May	14.60%	5.78%	8.82%
Jun	14.60%	5.66%	8.94%
Jul	14.60%	5.61%	8.99%
Aug	14.60%	5.53%	9.07%
Sep	14.60%	5.49%	9.11%
Oct	14.60%	5.31%	9.29%
Nov	14.60%	5.10%	9.50%
Dec	14.60%	5.48%	9.12%
Jan 2002	13.10%	5.44%	7.66%
Feb	13.10%	5.39%	7.71%
Mar	13.10%	5.71%	7.39%
Apr	13.10%	5.67%	7.43%
May	13.10%	5.64%	7.46%
Jun	13.10%	5.52%	7.58%
Jul	13.10%	5.38%	7.72%
Aug	13.10%	5.08%	8.02%
Sep	13.10%	4.76%	8.34%
Oct	13.10%	4.93%	8.17%
Nov	13.10%	4.95%	8.15%
Dec	13.10%	4.92%	8.18%

Summary Information	(1993 - 2002)
Average Risk Premium: (Jan 1993 - Dec 2002)	**7.03%**
High Risk Premium: (November 2001)	**9.50%**
Low Risk Premium: (November 1994)	**4.62%**

Sources: The Value Line Investment Survey: Ratings & Reports October 3, 2003.
Investopedia: http://www.investopedia.com

SCHEDULE 18-1

AQUILA, INC.
CASE NO. ER-2004-0034

Average Risk Premium above the Yields of 30-Year U.S. Treasury Bonds for DPL, Inc.'s Actual Returns on Common Equity

Mo/Year	DPL Inc.'s Actual ROE	30-Year U.S. Treasury Bond Yields	DPL Inc.'s Risk Premium
Jan 1993	13.50%	7.34%	6.16%
Feb	13.50%	7.09%	6.41%
Mar	13.50%	6.82%	6.68%
Apr	13.50%	6.85%	6.65%
May	13.50%	6.92%	6.58%
Jun	13.50%	6.81%	6.69%
Jul	13.50%	6.63%	6.87%
Aug	13.50%	6.32%	7.18%
Sep	13.50%	6.00%	7.50%
Oct	13.50%	5.94%	7.56%
Nov	13.50%	6.21%	7.29%
Dec	13.50%	6.25%	7.25%
Jan 1994	13.70%	6.29%	7.41%
Feb	13.70%	6.49%	7.21%
Mar	13.70%	6.91%	6.79%
Apr	13.70%	7.27%	6.43%
May	13.70%	7.41%	6.29%
Jun	13.70%	7.40%	6.30%
Jul	13.70%	7.58%	6.12%
Aug	13.70%	7.49%	6.21%
Sep	13.70%	7.71%	5.99%
Oct	13.70%	7.94%	5.76%
Nov	13.70%	8.08%	5.62%
Dec	13.70%	7.87%	5.83%
Jan 1995	14.10%	7.85%	6.25%
Feb	14.10%	7.61%	6.49%
Mar	14.10%	7.45%	6.65%
Apr	14.10%	7.36%	6.74%
May	14.10%	6.95%	7.15%
Jun	14.10%	6.57%	7.53%
Jul	14.10%	6.72%	7.38%
Aug	14.10%	6.86%	7.24%
Sep	14.10%	6.55%	7.55%
Oct	14.10%	6.37%	7.73%
Nov	14.10%	6.26%	7.84%
Dec	14.10%	6.06%	8.04%
Jan 1996	14.30%	6.05%	8.25%
Feb	14.30%	6.24%	8.06%
Mar	14.30%	6.60%	7.70%
Apr	14.30%	6.79%	7.51%
May	14.30%	6.93%	7.37%
Jun	14.30%	7.06%	7.24%
Jul	14.30%	7.03%	7.27%
Aug	14.30%	6.84%	7.46%
Sep	14.30%	7.03%	7.27%
Oct	14.30%	6.81%	7.49%
Nov	14.30%	6.48%	7.82%
Dec	14.30%	6.55%	7.75%
Jan 1997	14.00%	6.83%	7.17%
Feb	14.00%	6.69%	7.31%
Mar	14.00%	6.93%	7.07%
Apr	14.00%	7.09%	6.91%
May	14.00%	6.94%	7.06%
Jun	14.00%	6.77%	7.23%
Jul	14.00%	6.51%	7.49%
Aug	14.00%	6.58%	7.42%
Sep	14.00%	6.50%	7.50%
Oct	14.00%	6.33%	7.67%
Nov	14.00%	6.11%	7.89%
Dec	14.00%	5.99%	8.01%

Mo/Year	DPL Inc.'s Actual ROE	30-Year U.S. Treasury Bond Yields	DPL Inc.'s Risk Premium
Jan 1998	13.60%	5.81%	7.79%
Feb	13.60%	5.89%	7.71%
Mar	13.60%	5.95%	7.65%
Apr	13.60%	5.92%	7.68%
May	13.60%	5.93%	7.67%
Jun	13.60%	5.70%	7.90%
Jul	13.60%	5.68%	7.92%
Aug	13.60%	5.54%	8.06%
Sep	13.60%	5.20%	8.40%
Oct	13.60%	5.01%	8.59%
Nov	13.60%	5.25%	8.35%
Dec	13.60%	5.06%	8.54%
Jan 1999	14.00%	5.16%	8.84%
Feb	14.00%	5.37%	8.63%
Mar	14.00%	5.58%	8.42%
Apr	14.00%	5.55%	8.45%
May	14.00%	5.81%	8.19%
Jun	14.00%	6.04%	7.96%
Jul	14.00%	5.98%	8.02%
Aug	14.00%	6.07%	7.93%
Sep	14.00%	6.07%	7.93%
Oct	14.00%	6.26%	7.74%
Nov	14.00%	6.15%	7.85%
Dec	14.00%	6.35%	7.65%
Jan 2000	22.90%	6.63%	16.27%
Feb	22.90%	6.23%	16.67%
Mar	22.90%	6.05%	16.85%
Apr	22.90%	5.85%	17.05%
May	22.90%	6.15%	16.75%
Jun	22.90%	5.93%	16.97%
Jul	22.90%	5.85%	17.05%
Aug	22.90%	5.72%	17.18%
Sep	22.90%	5.83%	17.07%
Oct	22.90%	5.80%	17.10%
Nov	22.90%	5.78%	17.12%
Dec	22.90%	5.49%	17.41%
Jan 2001	27.80%	5.54%	22.26%
Feb	27.80%	5.45%	22.35%
Mar	27.80%	5.33%	22.47%
Apr	27.80%	5.64%	22.16%
May	27.80%	5.78%	22.02%
Jun	27.80%	5.66%	22.14%
Jul	27.80%	5.61%	22.19%
Aug	27.80%	5.53%	22.27%
Sep	27.80%	5.49%	22.31%
Oct	27.80%	5.31%	22.49%
Nov	27.80%	5.10%	22.70%
Dec	27.80%	5.48%	22.32%
Jan 2002	10.80%	5.44%	5.36%
Feb	10.80%	5.39%	5.41%
Mar	10.80%	5.71%	5.09%
Apr	10.80%	5.67%	5.13%
May	10.80%	5.64%	5.16%
Jun	10.80%	5.52%	5.28%
Jul	10.80%	5.38%	5.42%
Aug	10.80%	5.08%	5.72%
Sep	10.80%	4.76%	6.04%
Oct	10.80%	4.93%	5.87%
Nov	10.80%	4.95%	5.85%
Dec	10.80%	4.92%	5.88%

Summary Information	**(1993 - 2002)**
Average Risk Premium: (Jan 1993 - Dec 2002)	**9.64%**
High Risk Premium: (November 2001)	**22.70%**
Low Risk Premium: (March 2002)	**5.09%**

Sources: The Value Line Investment Survey: Ratings & Reports October 3, 2003.
Investopedia: http://www.investopedia.com

SCHEDULE 18-2

AQUILA, INC.
CASE NO. ER-2004-0034

Average Risk Premium above the Yields of 30-Year U.S. Treasury Bonds for DQE Inc.'s Actual Returns on Common Equity

Mo/Year	DQE, Inc.'s Actual ROE	30-Year U.S. Treasury Bond Yields	DQE, Inc.'s Risk Premium
Jan 1993	11.00%	7.34%	3.66%
Feb	11.00%	7.09%	3.91%
Mar	11.00%	6.82%	4.18%
Apr	11.00%	6.85%	4.15%
May	11.00%	6.92%	4.08%
Jun	11.00%	6.81%	4.19%
Jul	11.00%	6.63%	4.37%
Aug	11.00%	6.32%	4.68%
Sep	11.00%	6.00%	5.00%
Oct	11.00%	5.94%	5.06%
Nov	11.00%	6.21%	4.79%
Dec	11.00%	6.25%	4.75%
Jan 1994	12.30%	6.29%	6.01%
Feb	12.30%	6.49%	5.81%
Mar	12.30%	6.91%	5.39%
Apr	12.30%	7.27%	5.03%
May	12.30%	7.41%	4.89%
Jun	12.30%	7.40%	4.90%
Jul	12.30%	7.58%	4.72%
Aug	12.30%	7.49%	4.81%
Sep	12.30%	7.71%	4.59%
Oct	12.30%	7.94%	4.36%
Nov	12.30%	8.08%	4.22%
Dec	12.30%	7.87%	4.43%
Jan 1995	12.80%	7.85%	4.95%
Feb	12.80%	7.61%	5.19%
Mar	12.80%	7.45%	5.35%
Apr	12.80%	7.36%	5.44%
May	12.80%	6.95%	5.85%
Jun	12.80%	6.57%	6.23%
Jul	12.80%	6.72%	6.08%
Aug	12.80%	6.86%	5.94%
Sep	12.80%	6.55%	6.25%
Oct	12.80%	6.37%	6.43%
Nov	12.80%	6.26%	6.54%
Dec	12.80%	6.06%	6.74%
Jan 1996	12.00%	6.05%	5.95%
Feb	12.00%	6.24%	5.76%
Mar	12.00%	6.60%	5.40%
Apr	12.00%	6.79%	5.21%
May	12.00%	6.93%	5.07%
Jun	12.00%	7.06%	4.94%
Jul	12.00%	7.03%	4.97%
Aug	12.00%	6.84%	5.16%
Sep	12.00%	7.03%	4.97%
Oct	12.00%	6.81%	5.19%
Nov	12.00%	6.48%	5.52%
Dec	12.00%	6.55%	5.45%
Jan 1997	11.60%	6.83%	4.77%
Feb	11.60%	6.69%	4.91%
Mar	11.60%	6.93%	4.67%
Apr	11.60%	7.09%	4.51%
May	11.60%	6.94%	4.66%
Jun	11.60%	6.77%	4.83%
Jul	11.60%	6.51%	5.09%
Aug	11.60%	6.58%	5.02%
Sep	11.60%	6.50%	5.10%
Oct	11.60%	6.33%	5.27%
Nov	11.60%	6.11%	5.49%
Dec	11.60%	5.99%	5.61%

Mo/Year	DQE, Inc.'s Actual ROE	30-Year U.S. Treasury Bond Yields	DQE, Inc.'s Risk Premium
Jan 1998	12.10%	5.81%	6.29%
Feb	12.10%	5.89%	6.21%
Mar	12.10%	5.95%	6.15%
Apr	12.10%	5.92%	6.18%
May	12.10%	5.93%	6.17%
Jun	12.10%	5.70%	6.40%
Jul	12.10%	5.68%	6.42%
Aug	12.10%	5.54%	6.56%
Sep	12.10%	5.20%	6.90%
Oct	12.10%	5.01%	7.09%
Nov	12.10%	5.25%	6.85%
Dec	12.10%	5.06%	7.04%
Jan 1999	14.80%	5.16%	9.64%
Feb	14.80%	5.37%	9.43%
Mar	14.80%	5.58%	9.22%
Apr	14.80%	5.55%	9.25%
May	14.80%	5.81%	8.99%
Jun	14.80%	6.04%	8.76%
Jul	14.80%	5.98%	8.82%
Aug	14.80%	6.07%	8.73%
Sep	14.80%	6.07%	8.73%
Oct	14.80%	6.26%	8.54%
Nov	14.80%	6.15%	8.65%
Dec	14.80%	6.35%	8.45%
Jan 2000	10.50%	6.63%	3.87%
Feb	10.50%	6.23%	4.27%
Mar	10.50%	6.05%	4.45%
Apr	10.50%	5.85%	4.65%
May	10.50%	6.15%	4.35%
Jun	10.50%	5.93%	4.57%
Jul	10.50%	5.85%	4.65%
Aug	10.50%	5.72%	4.78%
Sep	10.50%	5.83%	4.67%
Oct	10.50%	5.80%	4.70%
Nov	10.50%	5.78%	4.72%
Dec	10.50%	5.49%	5.01%
Jan 2001	3.40%	5.54%	-2.14%
Feb	3.40%	5.45%	-2.05%
Mar	3.40%	5.33%	-1.93%
Apr	3.40%	5.64%	-2.24%
May	3.40%	5.78%	-2.38%
Jun	3.40%	5.66%	-2.26%
Jul	3.40%	5.61%	-2.21%
Aug	3.40%	5.53%	-2.13%
Sep	3.40%	5.49%	-2.09%
Oct	3.40%	5.31%	-1.91%
Nov	3.40%	5.10%	-1.70%
Dec	3.40%	5.48%	-2.08%
Jan 2002	17.70%	5.44%	12.26%
Feb	17.70%	5.39%	12.31%
Mar	17.70%	5.71%	11.99%
Apr	17.70%	5.67%	12.03%
May	17.70%	5.64%	12.06%
Jun	17.70%	5.52%	12.18%
Jul	17.70%	5.38%	12.32%
Aug	17.70%	5.08%	12.62%
Sep	17.70%	4.76%	12.94%
Oct	17.70%	4.93%	12.77%
Nov	17.70%	4.95%	12.75%
Dec	17.70%	4.92%	12.78%

Summary Information	**(1993 - 2002)**
Average Risk Premium: (Jan 1993 - Dec 2002)	**5.59%**
High Risk Premium: (September 2002)	**12.94%**
Low Risk Premium: (May 2001)	**-2.38%**

Sources: The Value Line Investment Survey: Ratings & Reports September 5, 2003.
Investopedia: http://www.investopedia.com

SCHEDULE 18-3

AQUILA, INC.
CASE NO. ER-2004-0034

Average Risk Premium above the Yields of 30-Year U.S. Treasury Bonds for Hawaiian Electric's Actual Returns on Common Equity

Mo/Year	HE's Actual ROE	30-Year U.S. Treasury Bond Yields	HE's Risk Premium
Jan 1993	9.60%	7.34%	2.26%
Feb	9.60%	7.09%	2.51%
Mar	9.60%	6.82%	2.78%
Apr	9.60%	6.85%	2.75%
May	9.60%	6.92%	2.68%
Jun	9.60%	6.81%	2.79%
Jul	9.60%	6.63%	2.97%
Aug	9.60%	6.32%	3.28%
Sep	9.60%	6.00%	3.60%
Oct	9.60%	5.94%	3.66%
Nov	9.60%	6.21%	3.39%
Dec	9.60%	6.25%	3.35%
Jan 1994	10.70%	6.29%	4.41%
Feb	10.70%	6.49%	4.21%
Mar	10.70%	6.91%	3.79%
Apr	10.70%	7.27%	3.43%
May	10.70%	7.41%	3.29%
Jun	10.70%	7.40%	3.30%
Jul	10.70%	7.58%	3.12%
Aug	10.70%	7.49%	3.21%
Sep	10.70%	7.71%	2.99%
Oct	10.70%	7.94%	2.76%
Nov	10.70%	8.08%	2.62%
Dec	10.70%	7.87%	2.83%
Jan 1995	10.60%	7.85%	2.75%
Feb	10.60%	7.61%	2.99%
Mar	10.60%	7.45%	3.15%
Apr	10.60%	7.36%	3.24%
May	10.60%	6.95%	3.65%
Jun	10.60%	6.57%	4.03%
Jul	10.60%	6.72%	3.88%
Aug	10.60%	6.86%	3.74%
Sep	10.60%	6.55%	4.05%
Oct	10.60%	6.37%	4.23%
Nov	10.60%	6.26%	4.34%
Dec	10.60%	6.06%	4.54%
Jan 1996	10.20%	6.05%	4.15%
Feb	10.20%	6.24%	3.96%
Mar	10.20%	6.60%	3.60%
Apr	10.20%	6.79%	3.41%
May	10.20%	6.93%	3.27%
Jun	10.20%	7.06%	3.14%
Jul	10.20%	7.03%	3.17%
Aug	10.20%	6.84%	3.36%
Sep	10.20%	7.03%	3.17%
Oct	10.20%	6.81%	3.39%
Nov	10.20%	6.48%	3.72%
Dec	10.20%	6.55%	3.65%
Jan 1997	10.60%	6.83%	3.77%
Feb	10.60%	6.69%	3.91%
Mar	10.60%	6.93%	3.67%
Apr	10.60%	7.09%	3.51%
May	10.60%	6.94%	3.66%
Jun	10.60%	6.77%	3.83%
Jul	10.60%	6.51%	4.09%
Aug	10.60%	6.58%	4.02%
Sep	10.60%	6.50%	4.10%
Oct	10.60%	6.33%	4.27%
Nov	10.60%	6.11%	4.49%
Dec	10.60%	5.99%	4.61%

Mo/Year	HE's Actual ROE	30-Year U.S. Treasury Bond Yields	HE's Risk Premium
Jan 1998	11.40%	5.81%	5.59%
Feb	11.40%	5.89%	5.51%
Mar	11.40%	5.95%	5.45%
Apr	11.40%	5.92%	5.48%
May	11.40%	5.93%	5.47%
Jun	11.40%	5.70%	5.70%
Jul	11.40%	5.68%	5.72%
Aug	11.40%	5.54%	5.86%
Sep	11.40%	5.20%	6.20%
Oct	11.40%	5.01%	6.39%
Nov	11.40%	5.25%	6.15%
Dec	11.40%	5.06%	6.34%
Jan 1999	11.00%	5.16%	5.84%
Feb	11.00%	5.37%	5.63%
Mar	11.00%	5.58%	5.42%
Apr	11.00%	5.55%	5.45%
May	11.00%	5.81%	5.19%
Jun	11.00%	6.04%	4.96%
Jul	11.00%	5.98%	5.02%
Aug	11.00%	6.07%	4.93%
Sep	11.00%	6.07%	4.93%
Oct	11.00%	6.26%	4.74%
Nov	11.00%	6.15%	4.85%
Dec	11.00%	6.35%	4.65%
Jan 2000	9.80%	6.63%	3.17%
Feb	9.80%	6.23%	3.57%
Mar	9.80%	6.05%	3.75%
Apr	9.80%	5.85%	3.95%
May	9.80%	6.15%	3.65%
Jun	9.80%	5.93%	3.87%
Jul	9.80%	5.85%	3.95%
Aug	9.80%	5.72%	4.08%
Sep	9.80%	5.83%	3.97%
Oct	9.80%	5.80%	4.00%
Nov	9.80%	5.78%	4.02%
Dec	9.80%	5.49%	4.31%
Jan 2001	11.60%	5.54%	6.06%
Feb	11.60%	5.45%	6.15%
Mar	11.60%	5.33%	6.27%
Apr	11.60%	5.64%	5.96%
May	11.60%	5.78%	5.82%
Jun	11.60%	5.66%	5.94%
Jul	11.60%	5.61%	5.99%
Aug	11.60%	5.53%	6.07%
Sep	11.60%	5.49%	6.11%
Oct	11.60%	5.31%	6.29%
Nov	11.60%	5.10%	6.50%
Dec	11.60%	5.48%	6.12%
Jan 2002	11.30%	5.44%	5.86%
Feb	11.30%	5.39%	5.91%
Mar	11.30%	5.71%	5.59%
Apr	11.30%	5.67%	5.63%
May	11.30%	5.64%	5.66%
Jun	11.30%	5.52%	5.78%
Jul	11.30%	5.38%	5.92%
Aug	11.30%	5.08%	6.22%
Sep	11.30%	4.76%	6.54%
Oct	11.30%	4.93%	6.37%
Nov	11.30%	4.95%	6.35%
Dec	11.30%	4.92%	6.38%

Summary Information	**(1993 - 2002)**
Average Risk Premium: (Jan 1993 - Dec 2002)	**4.45%**
High Risk Premium: (September 2002)	**6.54%**
Low Risk Premium: (January 1993)	**2.26%**

Sources: The Value Line Investment Survey: Ratings & Reports August 15, 2003.
Investopedia: http://www.investopedia.com

SCHEDULE 18-4

AQUILA, INC.
CASE NO. ER-2004-0034

Average Risk Premium above the Yields of 30-Year U.S. Treasury Bonds for IDACORP Inc's Actual Returns on Common Equity

Mo/Year	IDACORP, Inc.'s Actual ROE	30-Year U.S. Treasury Bond Yields	IDACORP, Inc.'s Risk Premium
Jan 1993	10.90%	7.34%	3.56%
Feb	10.90%	7.09%	3.81%
Mar	10.90%	6.82%	4.08%
Apr	10.90%	6.85%	4.05%
May	10.90%	6.92%	3.98%
Jun	10.90%	6.81%	4.09%
Jul	10.90%	6.63%	4.27%
Aug	10.90%	6.32%	4.58%
Sep	10.90%	6.00%	4.90%
Oct	10.90%	5.94%	4.96%
Nov	10.90%	6.21%	4.69%
Dec	10.90%	6.25%	4.65%
Jan 1994	10.00%	6.29%	3.71%
Feb	10.00%	6.49%	3.51%
Mar	10.00%	6.91%	3.09%
Apr	10.00%	7.27%	2.73%
May	10.00%	7.41%	2.59%
Jun	10.00%	7.40%	2.60%
Jul	10.00%	7.58%	2.42%
Aug	10.00%	7.49%	2.51%
Sep	10.00%	7.71%	2.29%
Oct	10.00%	7.94%	2.06%
Nov	10.00%	8.08%	1.92%
Dec	10.00%	7.87%	2.13%
Jan 1995	11.60%	7.85%	3.75%
Feb	11.60%	7.61%	3.99%
Mar	11.60%	7.45%	4.15%
Apr	11.60%	7.36%	4.24%
May	11.60%	6.95%	4.65%
Jun	11.60%	6.57%	5.03%
Jul	11.60%	6.72%	4.88%
Aug	11.60%	6.86%	4.74%
Sep	11.60%	6.55%	5.05%
Oct	11.60%	6.37%	5.23%
Nov	11.60%	6.26%	5.34%
Dec	11.60%	6.06%	5.54%
Jan 1996	11.90%	6.05%	5.85%
Feb	11.90%	6.24%	5.66%
Mar	11.90%	6.60%	5.30%
Apr	11.90%	6.79%	5.11%
May	11.90%	6.93%	4.97%
Jun	11.90%	7.06%	4.84%
Jul	11.90%	7.03%	4.87%
Aug	11.90%	6.84%	5.06%
Sep	11.90%	7.03%	4.87%
Oct	11.90%	6.81%	5.09%
Nov	11.90%	6.48%	5.42%
Dec	11.90%	6.55%	5.35%
Jan 1997	12.20%	6.83%	5.37%
Feb	12.20%	6.69%	5.51%
Mar	12.20%	6.93%	5.27%
Apr	12.20%	7.09%	5.11%
May	12.20%	6.94%	5.26%
Jun	12.20%	6.77%	5.43%
Jul	12.20%	6.51%	5.69%
Aug	12.20%	6.58%	5.62%
Sep	12.20%	6.50%	5.70%
Oct	12.20%	6.33%	5.87%
Nov	12.20%	6.11%	6.09%
Dec	12.20%	5.99%	6.21%

Mo/Year	IDACORP Inc.'s Actual ROE	30-Year U.S. Treasury Bond Yields	IDACORP Inc.'s Risk Premium
Jan 1998	12.20%	5.81%	6.39%
Feb	12.20%	5.89%	6.31%
Mar	12.20%	5.95%	6.25%
Apr	12.20%	5.92%	6.28%
May	12.20%	5.93%	6.27%
Jun	12.20%	5.70%	6.50%
Jul	12.20%	5.68%	6.52%
Aug	12.20%	5.54%	6.66%
Sep	12.20%	5.20%	7.00%
Oct	12.20%	5.01%	7.19%
Nov	12.20%	5.25%	6.95%
Dec	12.20%	5.06%	7.14%
Jan 1999	12.10%	5.16%	6.94%
Feb	12.10%	5.37%	6.73%
Mar	12.10%	5.58%	6.52%
Apr	12.10%	5.55%	6.55%
May	12.10%	5.81%	6.29%
Jun	12.10%	6.04%	6.06%
Jul	12.10%	5.98%	6.12%
Aug	12.10%	6.07%	6.03%
Sep	12.10%	6.07%	6.03%
Oct	12.10%	6.26%	5.84%
Nov	12.10%	6.15%	5.95%
Dec	12.10%	6.35%	5.75%
Jan 2000	16.00%	6.63%	9.37%
Feb	16.00%	6.23%	9.77%
Mar	16.00%	6.05%	9.95%
Apr	16.00%	5.85%	10.15%
May	16.00%	6.15%	9.85%
Jun	16.00%	5.93%	10.07%
Jul	16.00%	5.85%	10.15%
Aug	16.00%	5.72%	10.28%
Sep	16.00%	5.83%	10.17%
Oct	16.00%	5.80%	10.20%
Nov	16.00%	5.78%	10.22%
Dec	16.00%	5.49%	10.51%
Jan 2001	14.40%	5.54%	8.86%
Feb	14.40%	5.45%	8.95%
Mar	14.40%	5.33%	9.07%
Apr	14.40%	5.64%	8.76%
May	14.40%	5.78%	8.62%
Jun	14.40%	5.66%	8.74%
Jul	14.40%	5.61%	8.79%
Aug	14.40%	5.53%	8.87%
Sep	14.40%	5.49%	8.91%
Oct	14.40%	5.31%	9.09%
Nov	14.40%	5.10%	9.30%
Dec	14.40%	5.48%	8.92%
Jan 2002	7.00%	5.44%	1.56%
Feb	7.00%	5.39%	1.61%
Mar	7.00%	5.71%	1.29%
Apr	7.00%	5.67%	1.33%
May	7.00%	5.64%	1.36%
Jun	7.00%	5.52%	1.48%
Jul	7.00%	5.38%	1.62%
Aug	7.00%	5.08%	1.92%
Sep	7.00%	4.76%	2.24%
Oct	7.00%	4.93%	2.07%
Nov	7.00%	4.95%	2.05%
Dec	7.00%	4.92%	2.08%

Summary Information	(1993 - 2002)
Average Risk Premium: (Jan 1993 - Dec 2002)	**5.60%**
High Risk Premium: (December 2000)	**10.51%**
Low Risk Premium (March 2002)	**1.29%**

Sources: The Value Line Investment Survey: Ratings & Reports August 15, 2003.
Investopedia: http://www.investopedia.com

SCHEDULE 18-5

AQUILA, INC.
CASE NO. ER-2004-0034

Average Risk Premium above the Yields of 30-Year U.S. Treasury Bonds for NSTAR's Actual Returns on Common Equity

Mo/Year	NSTAR's Actual ROE	30-Year U.S. Treasury Bond Yields	NSTAR's Risk Premium
Jan 1993	11.70%	7.34%	4.36%
Feb	11.70%	7.09%	4.61%
Mar	11.70%	6.82%	4.88%
Apr	11.70%	6.85%	4.85%
May	11.70%	6.92%	4.78%
Jun	11.70%	6.81%	4.89%
Jul	11.70%	6.63%	5.07%
Aug	11.70%	6.32%	5.38%
Sep	11.70%	6.00%	5.70%
Oct	11.70%	5.94%	5.76%
Nov	11.70%	6.21%	5.49%
Dec	11.70%	6.25%	5.45%
Jan 1994	11.90%	6.29%	5.61%
Feb	11.90%	6.49%	5.41%
Mar	11.90%	6.91%	4.99%
Apr	11.90%	7.27%	4.63%
May	11.90%	7.41%	4.49%
Jun	11.90%	7.40%	4.50%
Jul	11.90%	7.58%	4.32%
Aug	11.90%	7.49%	4.41%
Sep	11.90%	7.71%	4.19%
Oct	11.90%	7.94%	3.96%
Nov	11.90%	8.08%	3.82%
Dec	11.90%	7.87%	4.03%
Jan 1995	9.80%	7.85%	1.95%
Feb	9.80%	7.61%	2.19%
Mar	9.80%	7.45%	2.35%
Apr	9.80%	7.36%	2.44%
May	9.80%	6.95%	2.85%
Jun	9.80%	6.57%	3.23%
Jul	9.80%	6.72%	3.08%
Aug	9.80%	6.86%	2.94%
Sep	9.80%	6.55%	3.25%
Oct	9.80%	6.37%	3.43%
Nov	9.80%	6.26%	3.54%
Dec	9.80%	6.06%	3.74%
Jan 1996	12.30%	6.05%	6.25%
Feb	12.30%	6.24%	6.06%
Mar	12.30%	6.60%	5.70%
Apr	12.30%	6.79%	5.51%
May	12.30%	6.93%	5.37%
Jun	12.30%	7.06%	5.24%
Jul	12.30%	7.03%	5.27%
Aug	12.30%	6.84%	5.46%
Sep	12.30%	7.03%	5.27%
Oct	12.30%	6.81%	5.49%
Nov	12.30%	6.48%	5.82%
Dec	12.30%	6.55%	5.75%
Jan 1997	12.30%	6.83%	5.47%
Feb	12.30%	6.69%	5.61%
Mar	12.30%	6.93%	5.37%
Apr	12.30%	7.09%	5.21%
May	12.30%	6.94%	5.36%
Jun	12.30%	6.77%	5.53%
Jul	12.30%	6.51%	5.79%
Aug	12.30%	6.58%	5.72%
Sep	12.30%	6.50%	5.80%
Oct	12.30%	6.33%	5.97%
Nov	12.30%	6.11%	6.19%
Dec	12.30%	5.99%	6.31%

Mo/Year	NSTAR's Actual ROE	30-Year U.S. Treasury Bond Yields	NSTAR's Risk Premium
Jan 1998	12.60%	5.81%	6.79%
Feb	12.60%	5.89%	6.71%
Mar	12.60%	5.95%	6.65%
Apr	12.60%	5.92%	6.68%
May	12.60%	5.93%	6.67%
Jun	12.60%	5.70%	6.90%
Jul	12.60%	5.68%	6.92%
Aug	12.60%	5.54%	7.06%
Sep	12.60%	5.20%	7.40%
Oct	12.60%	5.01%	7.59%
Nov	12.60%	5.25%	7.35%
Dec	12.60%	5.06%	7.54%
Jan 1999	9.10%	5.16%	3.94%
Feb	9.10%	5.37%	3.73%
Mar	9.10%	5.58%	3.52%
Apr	9.10%	5.55%	3.55%
May	9.10%	5.81%	3.29%
Jun	9.10%	6.04%	3.06%
Jul	9.10%	5.98%	3.12%
Aug	9.10%	6.07%	3.03%
Sep	9.10%	6.07%	3.03%
Oct	9.10%	6.26%	2.84%
Nov	9.10%	6.15%	2.95%
Dec	9.10%	6.35%	2.75%
Jan 2000	13.00%	6.63%	6.37%
Feb	13.00%	6.23%	6.77%
Mar	13.00%	6.05%	6.95%
Apr	13.00%	5.85%	7.15%
May	13.00%	6.15%	6.85%
Jun	13.00%	5.93%	7.07%
Jul	13.00%	5.85%	7.15%
Aug	13.00%	5.72%	7.28%
Sep	13.00%	5.83%	7.17%
Oct	13.00%	5.80%	7.20%
Nov	13.00%	5.78%	7.22%
Dec	13.00%	5.49%	7.51%
Jan 2001	13.70%	5.54%	8.16%
Feb	13.70%	5.45%	8.25%
Mar	13.70%	5.33%	8.37%
Apr	13.70%	5.64%	8.06%
May	13.70%	5.78%	7.92%
Jun	13.70%	5.66%	8.04%
Jul	13.70%	5.61%	8.09%
Aug	13.70%	5.53%	8.17%
Sep	13.70%	5.49%	8.21%
Oct	13.70%	5.31%	8.39%
Nov	13.70%	5.10%	8.60%
Dec	13.70%	5.48%	8.22%
Jan 2002	13.80%	5.44%	8.36%
Feb	13.80%	5.39%	8.41%
Mar	13.80%	5.71%	8.09%
Apr	13.80%	5.67%	8.13%
May	13.80%	5.64%	8.16%
Jun	13.80%	5.52%	8.28%
Jul	13.80%	5.38%	8.42%
Aug	13.80%	5.08%	8.72%
Sep	13.80%	4.76%	9.04%
Oct	13.80%	4.93%	8.87%
Nov	13.80%	4.95%	8.85%
Dec	13.80%	4.92%	8.88%

Summary Information	(1993 - 2002)
Average Risk Premium: (Jan 1993 - Dec 2002)	**5.79%**
High Risk Premium: (September 2002)	**9.04%**
Low Risk Premium: (January 1995)	**1.95%**

Sources: The Value Line Investment Survey: Ratings & Reports September 5, 2003.
Investopedia: http://www.investopedia.com

SCHEDULE 18-6

AQUILA, INC.
CASE NO. ER-2004-0034

Risk Premium Cost of Equity Estimates
for the Comparable Electric Utility Companies

Company Name	(1) Appropriate Yield	(2) Equity Premium	(3) Cost of Common Equity
Cleco Corporation	5.16%	7.03%	12.19%
DPL Inc.	5.16%	9.64%	14.80%
DQE, Inc.	5.16%	5.59%	10.75%
Hawaiian Electric Industries, Inc.	5.16%	4.45%	9.61%
IDACORP, Inc.	5.16%	5.60%	10.76%
NSTAR	5.16%	5.79%	10.95%
Average			**11.51%**

NOTES:

Column 1 = The appropriate yield is equal to the average 30-year U.S. Treasury Bond yield for October 2003 which was obtained from Investopedia: http://www.investopedia.com.

Column 2 = The equity premium represents the average difference between the Company's actual return on common equity as reported in The Value Line Investment Survey: Ratings & Report for August 15, September 5, and October 3, 2003, and the yield on 30-year U.S. Treasury Bonds January 1993 through December 2002. See Schedules 18-1 through 18-6.

Column 3 = Column 1 + Column 2.

SCHEDULE 19

AQUILA, INC.
CASE NO. ER-2004-0034

Selected Financial Ratios for the Comparable Electric Utility Companies

Company Name	(1) Year 2002 Common Equity to Total Capital Ratio	(2) Year 2002 Long-Term Debt Ratio	(3) Pre-Tax Interest Coverage Ratio	(4) Market-Market-to-Book Value	(5) 2003 Projected Return on Common Equity	(6) Bond Rating
Cleco Corporation	38.20%	60.00%	3.10 x **	1.58 x	12.50%	BBB
DPL Inc.	24.70%	74.60%	3.30 x **	2.40 x	17.50%	BBB
DQE, Inc.	25.50%	60.90%	3.60 x **	2.35 x	19.50%	BBB
Hawaiian Electric Industries, Inc.	46.50%	52.00%	3.00 x *	1.55 x	9.50%	BBB
IDACORP, Inc.	47.90%	49.20%	0.00 x *	1.13 x	4.50%	A
NSTAR	37.80%	60.90%	2.90 x **	1.86 x	13.50%	A
Average	**36.77%**	**59.60%**	**2.65** x	**1.81** x	**12.83%**	**BBB+**

Sources: The Value Line Investment Survey: Ratings and Reports, August 15, September 5, and October 3, 2003 for columns (1), (2), (3), and (5).
C.A. Turner Utility Reports, October 2003 for column (4).
Standard & Poor's RatingsDirect for column (6).

Notes: * As of March 31, 2003.
** As of June 30, 2003.

SCHEDULE 20

AQUILA, INC.
CASE NO. ER-2004-0034

Pro Forma Pre-Tax Interest Coverage Ratios for Aquila, Inc.

	8.64%	9.14%	9.64%
1. Common Equity (Schedule 10)	$1,607,879,000	$1,607,879,000	$1,607,879,000
2. Earnings Allowed (ROE * [1])	$138,920,746	$146,960,141	$154,999,536
3. Tax Multiplier (1 / { 1 - Tax Rate })	1.6231	1.6231	1.6231
4. Pre-Tax Earnings ([2] * [3])	$225,482,262	$238,531,004	$251,579,746
5. Preferred Dividends	$0	$0	$0
6. Annual Interest Costs (Schedule 10)*	$203,743,049	$203,743,049	$203,743,049
7. Avail. for Coverage ([4] + [5] + [6])	$429,225,311	$442,274,053	$455,322,795
8. **Pro Forma Pre-Tax Interest Coverage** ([7] / [6])	**2.11 x**	**2.17 x**	**2.23 x**

Electric Utility Financial Medians - Pretax Interest Coverage (x)

Standard & Poor's Corporation's Utility Rating Service as of July 7, 2000	Lower Quartile	Median	Upper Quartile
	BBB	**BBB**	**BBB**
	1.97	**2.53**	**3.15**

Note: * Long-term debt interest expense from Aquila's response to MPSC-222 and MPSC-532, which includes all international debt, but not the interest expense associated with the 14.875% debt issuance. The assumed interest expense for this issuance is as follows: $500,000,000 x 8.07% Yield as reported by Mergent's Public Utility Bond for July 2002 = $40,350,000.
Total: $40,350,000 + $163,393,049 = $203,743,049 Annual Interest Cost.

SCHEDULE 21

AQUILA, INC.
CASE NO. ER-2004-0034

Public Utility Revenue Requirement

or

Cost of Service

The formula for the revenue requirement of a public utility may be stated as follows :

Equation 1 : **Revenue Requirement = Cost of Service**

or

Equation 2 : **R R = O + (V - D) R**

The symbols in the second equation are represented by the following factors :

R R	=	Revenue Requirement
O	=	Prudent Operating Costs, including Depreciation and Taxes
V	=	Gross Valuation of the Property Serving the Public
D	=	Accumulated Depreciation
(V - D)	=	Rate Base (Net Valuation)
(V - D) R	=	Return Amount ($$) or Earnings Allowed on Rate Base
R	=	i L + d P + k E or Overall Rate of Return (%)
i	=	Embedded Cost of Debt
L	=	Proportion of Debt in the Capital Structure
d	=	Embedded Cost of Preferred Stock
P	=	Proportion of Preferred Stock in the Capital Structure
k	=	Required Return on Common Equity (ROE)
E	=	Proportion of Common Equity in the Capital Structure

SCHEDULE 22

AQUILA, INC.
CASE NO. ER-2004-0034

Weighted Cost of Capital as of December 31, 2002
For Aquila, Inc. d/b/a Aquila Networks MPS

Capital Component	Percentage of Capital	Embedded Cost	Weighted Cost of Capital Using Common Equity Return of: 8.64%	9.14%	9.64%
Common Stock Equity	35.31%	-----	3.05%	3.23%	3.40%
Long-Term Debt	64.31%	7.633%	4.91%	4.91%	4.91%
Short-Term Debt	0.38%	3.37%	0.01%	0.01%	0.01%
	100.00%		**7.97%**	**8.15%**	**8.32%**

Notes:

See Schedule 9 for the Capital Structure Ratios.

See Schedule 10 for the Embedded Cost of Long-Term Debt.

See Aquila, Inc.'s response to Staff Data Request No. MPSC-224 for the cost of short-term debt.

SCHEDULE 23