BEFORE THE

STATE OF NEW YORK

PUBLIC SERVICE COMMISSION

In the Matter of

LONG ISLAND WATER CORPORATION

Case 11-W-0020

OCTOBER 2011

Prepared Testimony of:

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Q. Please state your name and business address.
A. My name is Kwaku Duah. I am employed by the New York State Department of Public Service (Department). My business address is Three Empire State Plaza, Albany, New York 12223.
Q. Mr. Duah, what is your position at the Department?
A. My position is Associate Utility Financial Analyst in the Office of Accounting and Finance.
Q. Please describe your educational background and professional experience.
A. I hold a master's in Business Administration with a concentration in Finance and Accounting from SUNY Institute of Technology (2005). Since I joined the Department in 2007, I have pursued professional development through attendance at two conferences and workshops: the 39th Financial Forum of the Society of Utility and Regulatory Financial Analysts in Washington DC in April 2007 and a one-week school on regulatory studies at the Michigan State University Institute of Public Utilities in August 2007.
Q. Please briefly describe your current

responsibilities with the Department.

A. As an Associate Utility Financial Analyst, my assignments involve analyzing company's financial condition, capital structures, financing mechanisms, risks, cost of debt, cost of equity, diversification, and the relative cost position/competitive position of utilities operating in New York State. My other assignments involve testifying in rate cases on financial issues, and special projects including the determination of allowed returns on equity for independent telephone companies in New York State.

Q. Have you previously testified in a regulatory proceeding before the New York State Public Service Commission (Commission)?

A. Yes, I have presented testimony before the Commission in the NYSEG/RG&E Electric and Gas Rate Cases (09-E-0715, 09-G-0716, 09-E-0717, and 09-G-0718), the Niagara Mohawk Gas Rate Case (08-G-0609), and Niagara-Mohawk Corporation, Electric Rate Case (10-E-0500).

Q. Are you sponsoring any other exhibits?

A. Yes. I am sponsoring 24 exhibits in addition to

11 Company responses to my IRs shown in Exhibit_KXD-1.

Q. Please briefly describe these exhibits.

A. My exhibits are summarized below:

Exhibit Number	Description/Location
Exhibit __(KXD-2)	Summary of Staff's Rate of Return;
Exhibit __(KXD-3)	Public Utilities Fortnightly report on Ring Fencing
Exhibit __(KXD-4)	Standard and Poor's Report On Oncor Electric's Goodwill Adjustment
Exhibit __(KXD-5)	2010 Common Equity Ratio of Electric utilities and Goodwill Adjusted Common Equity Ratio of Staff Proxy Group
Exhibit __(KXD-6)	Standard and Poor's and Moody's Credit Metric Guidelines
Exhibit __(KXD-7)	Credit Metrics of LIAW

Exhibit __(KXD-8)	Mergent Bond Record, August 2011 Edition
Exhibit __(KXD-9)	Rate Year Cost of Debt
Exhibit __(KXD-10)	Summary of Staff’s Cost of Equity
Exhibit __(KXD-11)	Universe used for Staff Proxy Group Selection
Exhibit __(KXD-12)	Similarity Analysis
Exhibit __(KXD-13)	Staff Proxy Group;
Exhibit __(KXD-14)	Three Month Prices for the Proxy Companies;
Exhibit __(KXD-15)	Discounted Cash Flow calculation for Staff Proxy Group;
Exhibit __(KXD-16)	Capital Asset Pricing Model results
Exhibit __(KXD-17)	McKinsey & Company’s Recent report on the Inaccuracy of

		Analysts' Earnings Growth Rate Forecast
	Exhibit __(KXD-18)	Cited portion of Ms. Ahern's former testimonies in cases 09-W-0824 and 09-W-0828;
	Exhibit __(KXD-19)	Comparative Risk Analysis of Ms. Ahern's Proxy Groups in Case 09-W-0824
	Exhibit __(KXD-20)	Fortune Magazine article entitled "9% Forever."
	Exhibit __(KXD-21)	Annie Wong's Article on Size premium
	Exhibit __(KXD-22)	Richard Roll's Article on size premium
	Exhibit __(KXD-23)	Ching-Chih Lu's Article on size premium
	Exhibit __(KXD-24)	Standard and Poor's report on the effect of size on regulated water companies
	Exhibit __(KXD-25)	Hypothesis Testing of Size

Premium in the Water Sector

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

A. My testimony develops the fair rate of return to be used in determining the rate year revenue requirement for Long Island Water Corporation d/b/a Long Island American Water (LIAW or the Company). The development of the fair rate of return requires an estimation of the proper capital structure and cost rates for the capital used to finance the Company's earnings base.

SUMMARY

Q. Please summarize your testimony.

A. I recommend an overall after-tax rate of return of 7.21%, as opposed to the Company's request of 8.37%. On a pre-tax basis, my overall rate of return is 9.79% compared with the Company's request of 11.67%. In terms of revenue requirement, the after-tax rate of return accounts for approximately $2.385 million of the difference between Staff and the Company's

proposed cost rates. The difference between my recommended rate of return and the Company's is primarily the result of my recommended 8.90% cost of common equity and my recommended cost of debt for the Company of 5.92%. My recommended rate of return is summarized in Exhibit__(KXD-2), attached.

RATE OF RETURN

Q. Please discuss the estimation of a utility's overall rate of return.

A. A utility's overall rate of return represents the weighted cost of capital used by the utility to finance the assets providing the regulated utility service to customers. The determination of a utility's rate of return requires an estimate of the company's projected capital structure and the associated cost rates. The ratemaking process should provide a utility with a reasonable opportunity to earn a return on utility investments comparable to the return available on investments of similar risk.

Q. What cost of capital is LIAW proposing in this

proceeding?

A. The Company is requesting an overall after-tax rate of return of 8.37% for the 2011 rate year. The Company based its request upon the following capital structure and cost rates:

	Capitalization Ratio	Cost Rate	Weighted Cost
Long-Term Debt	55.73%	6.00%	3.34%
Preferred Stock	0.89%	4.50%	0.04%
Common Equity	43.38%	11.50%	4.99%
Total	100.00%		8.37%

CAPITAL STRUCTURE

Q. What capital structure did the Company use in determining its requested rate relief?

A. The Company used its pro-forma stand-alone capital structure.

Q. Does the Commission typically use a stand-alone capital structure to set the rates of a utility subsidiary in a holding company structure?

A. If a subsidiary is not sufficiently ring-fenced or financially isolated from the parent, the Commission has a long-established policy of

using the parent company's consolidated capital structure or a hypothetical capital structure.

Q. Can you provide some examples of cases in which the Commission has accepted the use of a consolidated capital structure and rejected the use of a stand-alone capital structure when setting the rates of a utility that resides in a holding company structure?

A. Yes. I have two apt examples, the first comes from Case 05-E-1222 (*Order adopting recommended decision with modifications, Issued and Effective August 23, 2006*) and the second is from Case 93-W-0455 (Opinion and *Order Approving Settlement subject to modifications, Issued and Effective April 18, 1994)*.

Q. Please describe the Commission's determination regarding the use of a stand-alone capitalization in Case 05-E-1222 cited above.

A. In Case 05-E-1222, the Commission employed the capital structure of Energy East (the ultimate parent of New York State Electric and Gas Corporation (NYSEG)) in establishing NYSEG'S

cost of capital. In doing so, the Commission stated at page 87 of its Order that:

> "…the established regulatory practice in New York in fully regulated rate proceedings, like this one, is to use the consolidated capital structure of the holding parent company for rate making purposes. This practice has typically been applied to utility holding company structures in other regulated industries….We find no valid basis for excluding electric utility holding company structures from the time-honored and well-established regulatory practice. There is no rational basis for us to depart from the approach developed and used for consolidated telecommunications, natural gas and water companies when addressing the substantially same issues pertaining to electric operations."

> In its Opinion, the Commission also stated that it would be prepared to re-evaluate using the parent company capital structure if and when the company were to "fully insulate the subsidiary's capital structure and financial standing in a manner that the credit rating agencies would recognize NYSEG's credit worthiness separate and apart from Energy East's."

The Commission also stated that until such "ring-fencing" is in place, it would use the parent company's consolidated capital structure.

Q. Could you briefly explain the concept of ring-fencing?

A. Ring-fencing, with respect to a regulated public utility subsidiary occurs when the subsidiary financially separates itself from its holding company/parent company to protect the subsidiary from financial instability or bankruptcy in the parent. The intent of the ring-fencing measures is to insulate assets in the subsidiary from the

risks of the holding company/parent and from the other subsidiaries in the holding company. In theory, if a subsidiary is ring-fenced, and the holding company or another subsidiary goes bankrupt, creditors cannot attach their claims to the assets of the ring-fenced subsidiary. As a result, ring-fencing protects the assets of the subsidiary in the event of the parent going bankrupt. Moreover, if there is adequate ring-fencing, a subsidiary could be rated higher than the parent. This was underscored in a 2008 publication of Public Utilities Fortnightly in which the paper stated, “S&P’s rating criteria usually require that subsidiaries of a weak parent be rated no more than the parent, unless there are strong economic and structural features--such as ring fencing---to support a higher rating. Normally with ring fencing, the firm can rate a subsidiary up to three notches higher than the consolidated rating of the parent and its subsidiary.” The report is attached as Exhibit_(KXD-3). If a utility

subsidiary achieves a relatively higher rating than its parent, there is a benefit of lower cost of debt to the subsidiary and ultimately to ratepayers.

Q. Please describe the determination in Case 93-W-0455 where the Commission again rejected the use of a stand-alone capital structure.

A. In the Commission Order for Long Island Water in Case 93-W-0455, the Commission stated at page 8 that, “[t]he use of the parent company’s capital structure follows the long standing practice of the Commission to employ the consolidated capitalization.”

In discussing the merits of using the parent capital structure, the order also stated in page 8 that:

> “This approach encourages utilities to take advantage of the economies of scale by financing on a consolidated rather than a stand-alone basis. The consolidated approach also focuses on the entity which controls the

subsidiaries major financial policies. Finally, the use of the parent's capitalization and cost rates also avoids potential double leverage problems arising from the parent company's issuance of debt that can show up as equity on the subsidiary's balance sheet."

Q. Has the Company presented a rationale regarding why the Commission should depart from its policy and employ a stand-alone capital structure for LIAW in this proceeding?

A. Yes. In response to IR-7 (KXD-7), Company Witness Watkins stated that:

> "while it is the Company's understanding that it is generally the Commission's policy to set a utility's cost of capital based upon the pro forma consolidated capital structure of its parent company, however, where the capitalizations of the subsidiary utility and the parent company are

essentially one and the same, and the possibility of double leveraging by the parent company is therefore minimal, the Commission may use the standalone capitalization of subsidiary utility."

As an example of his understanding of the Commission's policy, Mr. Watkins points to LIAW's and Staff's joint proposal settling the Company's 2004 rate filing.

Q. Has Mr. Watkins accurately described the Commission's capital structure methodology?

A. No, he has not. Absent adequate ring-fencing between the utility and its parent and affiliates, it is the long-established policy of the Commission to use the parent company's consolidated capital structure or a hypothetical capital structure. A judgment of similarity between the parent and subsidiary capital structure or the absence of double leverage does not justify the use of a stand-alone capital structure.

Q. Is LIAW adequately ring-fenced from its parent

and affiliated companies?

A. No, it is not. As demonstrated in Company's response to Staff IR-78 (KXD-26), LIAW has minimal ring-fencing mechanisms in place.

Q. In response to Staff IR-7 (KXD-7), the Company claims that the Commission used LIAW's stand alone capital structure in Case 04-W-0577 (*Order establishing rate plan, Issued and Effective March 21, 2005*); is this correct?

A. Yes, however that usage was contained within a joint proposal.

Q. What is the significance of a joint proposal?

A. Terms and agreements under a joint proposal are non-precedential and therefore not binding in any way on future Commission action. Joint proposals are typically the result of negotiations involving trade-offs between the parties. To take one settled issue out of the context of the entire settlement would not reflect the overall intentions of the settling parties. The fact that the parties employed a stand-alone capital structure in Case 04-W-0577

does not mean that it is applicable in this proceeding.

Q. What is the consolidated equity ratio of LIAW's parent, American Water Works Co. (AWW)?

A. The consolidated equity ratio of AWW is 42.95%.

Q. How did you calculate AWW's 42.95% equity ratio.

A. I based the 42.95% on AWW's December 31, 2010 actual consolidated capital structure.

Q. Why did you not estimate a pro-forma rate year capital structure for AWW?

A. While a pro-forma capital structure is the appropriate capital structure to use for the rate year, I am unable to determine the pro-forma structure as the Company refused to provide AWW's projected capital structure. The company's reason for its refusal is that it "considers this information extremely proprietary and does not disclose such forecasted information." See the company's response in Staff IR-2 (KXD-2).

Q. Do you recommend the use of AWW's December 31, 2010 capital structure in this proceeding?

A. No. I have reservations about using AWW's capital structure because it is distorted by the presence of more than $1.2 billion of goodwill that overstates the strength of the parent's equity ratio. As I will subsequently discuss, since 2006 AWW has written off over $1.7 billion of goodwill.

Q. What is goodwill?

A. Goodwill is an intangible asset on the balance sheet and occurs when a company purchases another company and upon the acquisition, the amount paid is greater than the value of the assets of the target company. The amount over book value usually accounts for the target company's intangible assets.

Q. Does the Commission allow utilities to earn a return on goodwill?

A. No, it does not. The Commission does not allow the inclusion of goodwill in rate base nor has it allowed goodwill to be included in a company's equity balance. As a result, goodwill should be removed from a utility's equity

balance when establishing rates.

Q. Can you provide an example where any rating agency removed goodwill from the equity of a regulated entity?

A. Yes. In computing Oncor Electric Delivery's credit metrics, Standard & Poor’s (S&P) backed out the entire amount of goodwill of $3.78 billion from the company’s equity. In their report entitled *Oncor Electric Delivery Co. LLC,* dated August 10, 2011, S&P stated, “In computing debt leverage, Standard & Poor's reduces the amount of equity on the balance sheet by an amount that is primarily equal to the goodwill resulting from the leveraged buyout of Oncor's majority owner, EFH. As of December 31, 2010, this amount was $3.78 billion.” This report is attached as Exhibit_(KXD-4).

Q. What are the ratemaking implications of goodwill?

A. Goodwill is a risky asset. It is booked in anticipation of shareholders receiving savings and other benefits from an acquisition as the

result of management efforts. If such savings do not appear likely, the goodwill becomes impaired and the company should write it down to a more realistic level. Goodwill is an even tougher proposition for businesses with price-regulated affiliates. Specifically, for AWW to realize the value of its goodwill it must not only produce savings and benefits consistent with the goodwill balance, it must also convince regulators to flow such benefits to shareholders rather than ratepayers. The Commission's public service responsibilities make such an approach untenable.

Q. What is the appropriate vehicle for financing goodwill?

A. Goodwill is essentially the amount a company has paid above the fair value for another company and as such is a very risky asset. Therefore, a company should finance goodwill with common equity capital.

Q. What are the implications of goodwill on AWW’s equity ratio?

A. To the extent that AWW's goodwill cannot meet the requirements of an impairment test, then the goodwill must be written off and a charge made to equity.

Q. Please discuss AWW's prior goodwill write-offs.

A. AWW has written off goodwill of $450,000 in 2009, $750,000 in 2008, and $506,000 in 2006. However, the company recorded no impairment charge for the year ended December 31, 2010.

Q. If AWW is required to write-off its remaining goodwill what is resulting equity ratio?

A. Writing off the remaining goodwill balance of $1.2 billion results in a pro-forma equity ratio of 34.41% also shown in Exhibit_(KXD-2)

Q. Do you think AWW's capital structure is appropriate for use in this proceeding?

A. Given the infirmities in the parent's capital structure, AWW's capital structure should not be used to establish rates for LIAW. My analysis indicates that the AWW's true equity ratio most likely falls between 34.41% and 42.95%.

Q. Is there another reason why AWW's capital

structure is inappropriate for this proceeding?

A. Yes. On July 11, 2011, AWW announced an agreement with Aqua America, Inc. (Aqua) to purchase all of Aqua's regulated operations in New York and to simultaneously sell AWW's regulated operations in Ohio to Aqua. S&P views the transaction as marginally beneficial to AWW's business performance and financial metrics, but not material enough to influence the company's BBB+ rating or its stable outlook. Under these circumstances, I cannot accurately project AWW's common equity ratio, neither would I consider a company's projection accurate at this time.

Q. Is there another option that the Commission can consider to set the capital structure of AWW?

A. Yes. In circumstances where the Commission recognized that a consolidated or stand-alone capital structure should not be applied, the Commission has relied upon a hypothetical capital structure.

Q. Are you aware of any proceedings where the

Commission employed a hypothetical capitalization when it determined the parent's common equity ratio is uncharacteristic of the subsidiary's risks?

A. Yes, a hypothetical capital structure was employed in the Niagara Mohawk Power Corporation (Niagara Mohawk) electric rate proceeding in Case 10-E-0050 (*Issued and Effective January 24, 2011).*

Q. Discuss the Commission's decision in the Niagara Mohawk proceeding.

A. In establishing the 48% hypothetical capital structure for Niagara Mohawk, the Commission stated in its Order that:

> "Nonetheless, in recent rate proceedings involving other public utility companies with corporate parents, integrated operations and combined finances, we have authorized a 48% equity position for ratemaking purposes and we have not exceeded this level for any such company. Were we to

go beyond this level for Niagara Mohawk, we would add to ratepayer costs about $10 million without obtaining any greater strength or confidence in the Company's financial metrics. Without an incremental advantage accompanying a movement from a 48% to a 50% equity position, we are not inclined to add to ratepayers' costs. Consequently, we do not find a sufficient basis here to exceed for Niagara Mohawk the 48% equity positions we have previously established for similarly rated companies such as Consolidated Edison and Central Hudson."

Q. Please summarize your analysis of LIAW and AWW capital structures.

A. I first analyzed the subsidiary's common equity ratio and concluded that it is not proper to use in establishing the cost of capital because sufficient ring-fencing does not exist between LIAW and its parent. Next, I analyzed the

parent's consolidated capital structure and concluded that it is not appropriate because of $1.2 billion of goodwill in the parent's balance sheet. After removal of the goodwill, the common equity ratio was 34.41%. As illustrated in Exhibit_(KXD-2), a 34.41% equity ratio does not support AWW's BBB+/Baa2 bond rating. I believe that LIAW should have parameters supporting AWW's rating since LIAW issues its debt primarily through AWW and LIAW's ratepayers obtain the cost benefits of the parent's bond rating. As I will subsequently demonstrate, my recommendations provide LIAW with financial metrics supporting a BBB+/Baa2 bond rating. I am recommending that LIAW's equity ratio be based upon a hypothetical capital structure.

Q. What is your recommended hypothetical equity ratio for LIAW?

A. Based on my analysis, I am recommending a 43.76% equity ratio for LIAW.

Q. How did you arrive at the hypothetical 43.76% equity ratio?

A. I began my analysis by examining the equity ratio of a surrogate group of electric and gas companies. As I will subsequently detail, I have used the surrogate group to estimate LIAW's cost of equity as it reasonably represents the overall risk profile of LIAW. As illustrated in Exhibit_(KXD-5), I have used three sources to estimate an appropriate equity ratio for the surrogate group. I first examined the equity ratio of the surrogate group of companies based upon *Value Line Investment Survey* (*Value Line*) reports. As the exhibit illustrates, *Value Line* estimates a median and average equity ratio of 48.70% and 48.10% respectively for the surrogate group. After adjusting for each company's goodwill balance and short-term debt, *Value Line's* estimate for the group's equity ratio is 42.04%. I then examined the equity ratio of the surrogate group using the equity values obtained by CapitalIQ, and then removed goodwill to arrive at an equity ratio of 43.76%. Finally, I compared the Value Line and CapitalIQ derived

equity ratio to the electric utility common equity ratio as reported by the Edison Electric Institute (EEI). Page 3 of Exhibit_KXD-5 illustrates that the EEI estimated equity ratio is 42.6%. My recommendation of a 43.76% ratio represents the high end of the range of reasonable estimated equity ratios for the proxy group.

Q. How does your recommended equity ratio compare with the Company's requested equity ratio?

A. While the Company and I differ on the proper method for deriving our recommendations, my estimate represents only a 38 basis point difference from the Company's request.

Q. You noted that the stand-alone capital structure has some infirmities. Are there measures you recommend that the Commission should apply to rectify the issues you had with the applicability of a stand-alone capital structure?

A. Yes. Ring-fencing measures should be employed at LIAW. At a minimum, LIAW should implement a

dividend restriction effective if the credit rating of AWW should fall below an investment grade.

Q. Does your recommended 43.76% equity ratio provide LIAW financial metrics consistent with AWW's bond rating?

A. Yes, my recommended 43.76% equity ratio, when combined with LIAW's resulting financial metrics, will allow LIAW to achieve ratings metrics consistent with AWW's BBB+/Baa2 S&P's and Moody's Investor Service (Moody's) ratings.

Q. Please describe your analysis.

A. I began my analysis by examining the credit metrics required by S&P and Moody's to achieve various bond ratings. As the reports illustrate, a company's equity ratio is examined in conjunction with a variety of financial metrics in assigning a bond rating. My analysis then compares the credit metrics resulting from Staff's recommendations in this proceeding for LIAW to the metrics required by S&P and Moody's for various credit ratings. As detailed in the

rating agency reports contained in Exhibits_(KXD-6), the following credit metrics are used by S&P and Moody's in their evaluations.

S&P:

1. Funds From Operations/Debt
2. Debt/EBITDA
3. Debt/Capital

Moody's:

1. Cash flow Interest Coverage
2. Cash Flow/Debt
3. Retained Cash Flow/CAPEX
4. Debt/Capital

Q. Please provide the results of your analysis.

A. As illustrated in Exhibit_(KXD-7), LIAW's overall credit metrics fall within the ranges established by the rating agencies necessary to support AWW's existing bond ratings. Since LIAW generally issues debt through AWW, I am recommending that ratepayers support AWW's existing bond ratings. Requiring LIAW's ratepayers to support credit metrics above AWW's

bond ratings would require its ratepayers to pay for benefits that LIAW would not obtain when issuing securities. In addition, if in the future LIAW were to obtain its own bond rating and issue securities based upon its credit, the lack of any meaningful ring-fencing makes it very unlikely that it would achieve ratings above those of its parent.

LONG-TERM DEBT AND PREFERRED STOCK

Q. Did the Company provide you with work papers deriving its cost of debt and preferred stock?

A. Yes. The company provided work papers deriving its cost of debt and preferred stock. Moreover, in response to Staff IR-11 (KXD-11), the Company explained how it derived the estimates of the interest costs of 6.6% and 7.0% associated with the planned debt issuances in 2011 and 2012 respectively.

Q. How did the Company estimate its interest cost associated with the planned debt issuances in 2011 and 2012?

A. The Company relied on Bloomberg’s forward curve

approach to estimate the interest cost associated with the planned debt issuances in 2011 and 2012.

Q. Has the Commission used a forward yield curve analysis in prior rate proceedings to estimate rate year interest costs?

A. No, it has not. In estimating future cost rates, the Commission generally recognizes current rates as the most accurate predictor of rate year interest levels. In addition, the Company has not provided evidence supporting the use of forward yield curves to estimate rate year interest rates and has simply presented its forward yield curve in response to Staff IR-122 (KXD-36). Moreover, the cost rate of 6.11% adopted by the Commission in Long Island's last rate case was not based on forward yield curve approach but rather on current interest rates provided by Moody's Credit Perspectives (now Mergent Bond Record).

Q. What interest rate did you derive for the planned long-term debt issuances of $6.0

million in 2011 and 2012?

A. I derived an interest rate of 5.68% based upon 5.63% cost of BBB+/Baa2 -rated long-term debt published in the August 2011 Mergent Bond Record (shown as Exhibit_(KXD-8)) plus an estimated 5 basis points of issuance premium. The derivation of my recommended cost of debt is shown in Exhibit_(KXD-9). The interest rates should be updated based upon interest rates and yield spreads in existence just prior to the Commission's decision. In addition, if the assumed 2011 debt issuance occurs prior to the Commission opinion in this proceeding, LIAW's actual issuance cost and expenses should be used to calculate its cost rate.

Q. Why did you derive the marginal cost of long-term debt using the parent's BBB+/Baa2 credit rating?

A. I used the parent's BBB+/Baa2 credit rating because LIAW issues its debt primarily through the parent, AWW.

Q. What was the company's proposed embedded cost of

long-term debt?

A. The company initially proposed 6.05% embedded cost of debt and later revised it to 6.0% in response to Staff IR-3 (KXD-3).

Q. Did you make changes to the company's revised 6.0% cost of long-term debt?

A. Yes, I made two changes to the Company's presentation. First, as previously discussed, I used a 5.68% interest rate for the assumed LIAW debt issuances. Second, my review of the Company's presentation revealed that its methodology did not allow recovery of the yearly amortization of its unamortized debt expenses. Therefore, I increased the embedded cost rate to compensate LIAW for the expense amortization. As illustrated in Exhibit KXD-9, I am recommending a 5.92% cost of debt for the rate year.

Q. Have you reviewed LIAW's forecasted rate year level and cost rate for preferred stock?

A. Yes. I have reviewed and accepted the Company's estimated level and cost rate of 4.50% for

preferred stock.

SUMMARY OF MY RECOMMENDED RETURN ON COMMON EQUITY (ROE)

Q. Please summarize your analysis of the cost of common equity?

A. My common equity cost estimate is based on applying a Discounted Cash Flow (DCF) analysis and Capital Asset Pricing Model (CAPM) analysis to a proxy group of water and electric and integrated electric and gas companies having a credit rating from S&P of at least BBB- and a credit rating of at least Baa3 from Moody's. The DCF applied to the proxy group results in a median equity cost of 8.50%. The CAPM applied to the proxy group yields an ROE of 9.30% for the traditional CAPM and 9.90% for the zero-beta CAPM. An average of the two CAPM methods produces an equity return of 9.60%. Applying weightings of two-thirds to the DCF and one-third to the CAPM, results in cost of equity of 8.87% rounded up to 8.9%. A summary of these calculations can be seen in Exhibit__(KXD-10).

Q. Please discuss prior Commission precedent in estimating the cost of equity.

A. In prior rate proceedings the Commission has consistently used the methodology of weighting the DCF result as two-thirds of the total equity cost and the CAPM result as one-third in estimating a utility's cost of equity. For example, in its decision in Case 95-G-1034, Central Hudson Electric and Gas Corporation - Gas Rates (issued October 3, 1996), the Commission authorized a cost of equity based upon a two-thirds DCF and one-third CAPM methodology. Similarly, in Cases 02-E-0198 and 02-E-0199, Rochester Gas and Electric Corporation - Electric Rates (issued March 5, 2003), Case 06-E-1433, Orange & Rockland Utilities, Inc. – Electric Rates (issued October 18, 2007) and Case 07-E-0523, Consolidated Edison Company of New York, Inc - Electric Rates (issued March 25, 2008), the Commission authorized ROE was based on a two-thirds DCF, one-third CAPM methodology.

Consistent with staff approach and prior Commission's precedent, I applied the DCF and the CAPM approach to a proxy group of companies that were selected based on the criteria that will be discussed later in my testimony.

PROXY GROUP

Q. How did you select the proxy group for your analysis?

A. The proxy group should contain a sufficient number of companies to provide a statistically relevant sample group size and, as close as possible, represent the risk characteristics of the individual company being analyzed. In most instances, a proxy group analysis involves a trade-off between the size of the proxy group and risk differences between the group and the individual firm being analyzed. When risk differences exist, the analyst must determine if a risk adjustment is required to the proxy group results in order to accurately reflect the risk characteristics of the individual firm.

Q. Have you considered the use of a proxy group of

publically traded water companies to estimate AWW's cost of equity?

A. Yes. As shown in page 3 of Exhibit_KXD-11, there are ten publicly traded water companies. Out of this number, only five have *Value Line* projected data for earnings per share (EPS), dividend per share (DPS), book value per share, (BVPS), and common shares. These companies are American States Water Co., American Water Works Co. Inc., Aqua America, California Water Service Group, and SJW Corp. Out of the five potential candidates, only two, American Water Works Co. , and Aqua America, have investment grade ratings from both Moody's and S&P. Given America Water Works announcement on July 11, 2011 that it plans to purchase Aqua America New York's operations and in exchange, sell its operations in Ohio to Aqua America, there will be only one candidate for a proxy group. Therefore, a one-company sample does not provide an adequate proxy group size to estimate LIAW's cost of equity.

Q. Given the limited number of water utilities whose shares are publicly listed and actively traded, what proxy group do you intend to employ?

A: In view of the small number of available publicly traded water utilities, I do not believe that a water company proxy group provides the statistical reliability to accurately estimate LIAW's cost of equity. Therefore, consistent with Staff and the Commission's well-established approach in determining return on equity for water companies, I constructed a proxy group of electric companies to determine the ROE for LIAW. In addition, I have also included a water company that met Staff selection criteria.

Q. Why did you apply your DCF and CAPM approach to a proxy group of largely electric companies?

A. I applied my DCF and CAPM approach to a proxy group of electric and integrated electric companies because its risk profile is similar to the group of publicly traded water companies.

Q. How are the electric proxy companies and publicly traded water utilities similar in risk?

A. Like a water utility, the electric proxy companies are regulated public utilities that: (1) invest primarily in a capital-intensive physical network that connects the customer to the source of supply; and (2) sell their products and services at regulated rates to customers.

Q. Is there any empirical evidence that supports your assertion that the electric group is similar to the publicly traded water companies?

A. Yes. As shown in Exhibit_(KXD-12), in the second quarter of 2011, the average Value Line Safety Rank for the water sector is 2.5 on a scale of 1 to 5, where 1 is the safest and 5 is the least safe; whereas the electric proxy group averaged 2.3. In terms of average S&P credit rating, the water group is ranked closed to A- compared to BBB+ and A- for the electric and Gas LDCs respectively. Regarding capital intensity in 2010, the water group scores 4.23 relative to

2.18 and 1.25 for the electric and Gas LDCs respectively. When it comes to *Value Line* beta, both water and T&D electric have an average beta of 0.70, compared to 0.68 for the gas LDCs.

Q. What is Value Line Safety Rank?

A. The *Value Line* Safety Rank is a measurement of potential risk associated with a company's common stocks. The safety rank is computed by averaging two *Value Line* indexes: the price stability index and the financial strength rating.

Q. Please describe how you selected your proxy group of 29 companies.

A. I began by identifying a universe of 10 water publicly traded utilities that are followed by *Value Line* and 53 electric utilities also covered by *Value Line*. The 53 electric utilities, as shown in Exhibit__(KXD-11), are classified as "electric (Central, East, and West)" by *Value Line*. These utilities are engaged in pure electric and integrated electric and gas combination business operations.

Starting with that group of companies, I selected the utilities that met the following criteria: (1) had investment grade of at least BBB-/Baa3 by S&P and Moody's, respectively; (2) had regulated revenues that contributed at least 70% of total revenue, as determined by each company's latest annual report (2010); and (3) were currently paying common stock dividends. Moreover, the companies could not currently be involved in any merger/acquisition activity related to their utility assets. The proxy group of 29 companies shown in Exhibit_(KXD-13) met the above criteria. I did not include Empire District Electric Company in my proxy because it has suspended its dividend payment for 2011. As indicated earlier, I did not include American Water Works because of its recent announcement of acquisition plans.

DISCOUNTED CASH FLOW METHODOLOGY

Q. Please describe the DCF methodology.

A. The DCF methodology assumes that the principles used to measure the cost of common equity are

the same as those used in measuring the yield investors require on debt. However, while interest payments are known with relative certainty, future dividend payments are uncertain. The foundation of the DCF is that investors will price common stock to equal the present value of future dividend payments. Therefore, the valuation of a share of stock can be represented by the following dividend growth rate expression:

$$P_0 = \frac{D_1}{(1+k)^1} + \frac{D_2}{(1+k)^2} + \frac{D_3}{(1+k)^3} \ldots \frac{D_n}{(1+k)^n}$$

Where:

P_0 = current stock price

D_n = dividend in period

k = cost of equity.

Q. Please describe your DCF methodology and its results.

A. As illustrated in Exhibit_(KXD-14), the DCF starts with a three-month average stock price, calculated by averaging the high and low monthly price for the period May 2011 to July 2011 for

each company in the proxy group. The calculation of the DCF for the proxy group is shown in Exhibit_(KXD-15) which contains the *Value Line* forecasted earnings per share, current year, and forecasted dividend per share, book value per share, and the amount of common stock expected to be issued. The *Value Line* data is based on the most recently available data reported in the *Value Line* for the Electric Industry (East, Central, and the West). By calculating the discount rate required to turn the stream of expected dividend payments into the current stock price, one can determine the rate of return investors require for each company. The discount rate that equates the current stock price to the stream of all future dividends is the cost of equity. Consistent with Commission's recent precedent, I employed the median return on equity as the DCF result for the proxy group.

Q. How did you develop your dividend projections?

A. I employed a two-stage DCF methodology. For the

2011 through 2015 period, *Value Line* dividends per share estimates are used. Beyond 2015, a sustainable growth rate is calculated for each company in the proxy group based on its expected return on equity, projected retention ratio, and the projected growth in common equity through stock issuances. The base year for the dividend projection in my DCF calculation was based on year 2012 dividends, which is the time frame that I propose to be used by the Commission in reaching its decision in this proceeding.

Q. What are your average and median sustainable growth rates?

A. For my proxy group, the median sustainable growth rate used to estimate expected future dividends is 4.59% and the average is 4.43%.

Q. What was the result of your DCF analysis?

A. Based on the inputs described above, the median DCF cost of equity for the proxy group was 8.50%.

CAPITAL ASSET PRICING MODEL METHODOLOGY

Q. Please explain the basis underlying the CAPM

methodology that you used in part to determine the cost of equity for the proxy group.

A. The basic concept underlying the CAPM is that risk-averse investors demand higher returns for assuming additional risk. In other words, higher-risk securities are priced to yield higher expected returns than lower-risk securities. I used both the traditional and zero-beta CAPM methodologies.

Q. How does the CAPM measure risk?

A. The CAPM quantifies the additional return, or risk premium, required for bearing incremental risk above the risk-free rate of return. The model provides a formal risk-return relationship based on the premise that an investor who diversifies his security portfolio is only exposed to a systematic or market risk. The remaining risks are diversifiable and, therefore, are not assumed by a rational investor. Hence, investors are not compensated for diversifiable risks that they can eliminate. For instance, investors must not be rewarded for

company size premium because it is a diversifiable risk.

Q. What assumptions are the CAPM based on?

A. The model is based on the assumptions that: (1) the capital market is competitive and efficient; (2) investors are risk-averse and demand higher returns for higher risk; (3) the model is a single factor model; and (4) investors hold diversified portfolios and operate in capital markets with no transaction costs, taxes, or restrictions on financial transactions.

Q. What role should the CAPM play in an ROE analysis?

A. As recognized by the Commission in prior rate proceedings, the CAPM presents a conceptual framework that provides a reasonable estimate of a firm’s cost of equity. Given some of the weaknesses of the CAPM, it is given a lesser weight (33%) compared to the DCF weighting of 67% in our ROE analysis.

Q. What are some of the weaknesses of the CAPM methodology?

A. The first weakness of the CAPM relates to changes in betas. Betas change over time as both a company's risk profile and capital structure change. The second shortcoming of the CAPM is the reliance on historical betas as a surrogate for true, fundamental, future betas of companies. Historical estimates only reflect the past riskiness of an equity security that need not be representative of the future riskiness that is relevant to equity investors. The CAPM is formulated in terms of investor expectations, which transcend exclusive reliance on historical measures of riskiness like betas that are based solely on the past return performance of stocks. Third, the CAPM model assumes that asset returns are normally distributed random variables. It is, however, frequently observed that returns in equity and other markets are not normally distributed. As a result, large swings occur in the market more frequently than the normal distribution assumption would expect. Fourth, the model

assumes that the beta coefficient is an adequate measurement of risk. This might be justified under the assumption of normally distributed returns, but for general return distributions, other risk measures will likely reflect the investors' preferences more adequately. Finally, the model does not appear to adequately explain the variation in stock returns. Empirical studies show that low beta stocks may offer higher returns than the model would predict.

Q. Please describe the calculation used in the traditional CAPM.

A. The formal traditional CAPM expression takes the form:

$$K = R_f + \beta * (R_m - R_f)$$

Where:

K = investor's required return or equity cost of capital

R_f = risk-free rate of return

β = beta, measure of both business and financial risk (systematic risk)

R_m = market rate of return

$R_m - R_f$ = market risk premium.

The risk-free rate is measured by the yield on a long-term U.S. Treasury bond. The traditional CAPM determines the return on common equity by adding a company's non-diversifiable risk premium to the risk-free rate. The non-diversifiable risk premium is measured by multiplying the proxy's median beta by the market risk premium.

Q. What data did you use as inputs in the CAPM formula?

A. I employed the monthly average of 10-year and 30-year Treasury bond yields over a three-month period from May 2011 to July 2011, as the risk-free rate. The blending of the 10-year and 30-year Treasury bond yields is a reasonable estimate of the risk-free rate over most investors' time horizon. As illustrated in Exhibit_(KXD-16), the risk-free rate is 3.66%. The estimate of market return was the S&P 500 market return obtained from the average of the

estimates contained in Merrill Lynch's June, July, and August 2011 editions of Quantitative Profiles. The S&P 500 is an index that tracks the performance of the common stock of 500 large, publicly held companies that trade over the New York Stock Exchange and NASDAQ. Over the period May through July 2011, Merrill Lynch estimates the required return for the market to be 11.72%. Given the risk-free rate of 3.66%, a market risk premium of 8.06% was calculated. Finally, I used the median beta of the latest *Value Line* published betas for the 29 utilities in my proxy group. The surrogate group median beta is 0.70

Q. What is your estimate of the cost of equity using the traditional CAPM?

A. As calculated below, the traditional CAPM cost of equity is 9.30%:

Required Return = 3.66% + 0.70 x 8.06%

Q. Please describe the zero-beta CAPM.

A. The zero-beta CAPM is a two-factor version of the standard CAPM. The zero-beta CAPM

determines the return on equity by adding two factors to the risk-free rate: (1) a factor of 0.75%, multiplied by the average beta of the proxy group and S&P 500 market risk premium; and (2) a factor of 25% multiplied by S&P 500 market risk premium. The zero-beta CAPM expression takes the form:

$$K = R_f + 0.75*\beta*(R_m-R_f) + 0.25*(R_m-R_f),$$

where all the variables are the same as that of the standard CAPM described above.

Q. What is the result of your zero-beta CAPM Methodology?

A. As the following calculation illustrates, the zero-beta CAPM produces a 9.90% cost of equity. Required Return = 3.66% + (0.75 x 0.70 x 8.06%) + (0.25 x 8.06%).

Q. What CAPM result did you use in the calculation of the proxy group cost of equity?

A. Consistent with Commission's precedent in prior rate proceedings, including its most recent decisions and orders in fully litigated cases, I have averaged the results of the traditional and

zero-beta CAPM to arrive at a CAPM result of 9.60%. The CAPM calculation is shown in Exhibit_(KXD-16).

Q. What ROE did you calculate for your proxy group, given the results of your DCF and CAPM analyses?

A. The DCF and CAPM produce an ROE of 8.87% (rounded up to 8.9%) for the proxy group. I arrived at this figure by applying two-third and one-third weight to the results of the DCF and CAPM methods, respectively.

Q. Is the 8.9% an appropriate ROE for Long Island Water?

A. The business and financial risks of the surrogate group must be compared to LIAW's risks to determine if the 8.9% group ROE should be applied to LIAW. If risk differences exist, the surrogate group's cost rate must be adjusted to reflect the different risk profile. Based on this analysis, there are no material risk differences, so the 8.9% ROE is appropriate for Long Island Water.

Q. Please discuss the concept of business and

financial risk.

A. Business risk is the probability of loss inherent in an organization's operations and operating environment that may impair its ability to provide returns on investment. Financial risk is the additional risk a shareholder bears when a company uses debt in addition to equity financing. Companies that issue more debt instruments would have higher risk than companies financed mostly or entirely by equity. Business risk plus the financial risk equal total corporate risk.

Q. Are risk adjustments required to the surrogate group cost rate to reflect LIAW’s equity cost rate?

A. No, my analysis indicates that there is no discernable business or financial risk difference between the group and AWC.

FINANCIAL RISKS

Q. Company witness Ahern is recommending a Hamada adjustment to reflect higher financial risk than her surrogate group. Are you recommending a

financial risk adjustment for LIAW?

A. No, I am not.

A. Please discuss why a financial risk adjustment is not necessary.

A. As previously discussed, I am recommending a hypothetical capital structure for LIAW consisting of an equity ratio of 43.76%. My recommendation is based upon the goodwill adjusted equity ratio of the surrogate group. Since my recommendation is identical to the surrogate group's equity ratio, a financial risk adjustment is not required. In addition, I have compared AWW's bond rating of BBB+/Baa2 to the average bond rating of the proxy group. As demonstrated in Exhibit_(KXD-13), the surrogate group's average bond rating is identical to AWW's BBB+/Baa2. This indicates that there is no discernable difference in overall risk between AWW and the group.

BUSINESS RISKS

Q. Please discuss the concept of business risk.

A. Business risk is the risk associated with a company's operating cash flows. Business risks represent the ability of a firm to generate sales to cover its basic variable and fixed costs over a variety of economic conditions. Business risks for utilities tend to be low because the public need for utility service combined with the ratemaking process assures that utilities will have a reasonable opportunity to recover all of their prudent expenditures. By contrast, business risk for competitive companies is higher because the demand for their products is more dependent on market forces. I have relied upon S&P's business risk profile analysis to analyze the business risks of the proxy group and LIAW. S&P's business risk profile analysis incorporates such factors as country risk, regulatory environment, company position, business, and geographic diversification, and management strategy. Their business risk profile categories include "Excellent", "Strong",

"Satisfactory", "Fair", "Weak", and "Vulnerable".

Q. Have you analyzed the business risks of the proxy group versus LIAW?

A. Yes. As shown in Exhibit_(KXD-13), I assigned numerical scores from 1 to 6 to the six categories of S&P's business profiles where 1 corresponds to "Excellent", 2 to "Strong", 3 to "Satisfactory", 4 to "Fair", 5 to "Weak", and 6 to "Vulnerable". The average S&P business profile of the proxy group is 1.3, which is between "Excellent" and "Strong". Relative to the proxy group business risk profile, the parent and its subsidiary have "excellent" business risk profile of staff assigned score of 1.

Q. Do you propose a business risk adjustment to the recommended cost of equity to account for the business risk differentials between LIAW and your proxy group?

A. No, as I have previously demonstrated, there is no discernable difference in business risk

between LIAW and the surrogate group. As a result, such an adjustment is not necessary. I am not recommending any business risk adjustment because LIAW has almost the same business risk profile relative to my proxy group. The differences in the degree of business risk are relatively minute and nearly imperceptible. The majority of the proxy group companies are "excellent" and a few are "strong;" Therefore, on an overall basis the group leans heavily towards an "excellent" business profile with staff numeric score of 1.3 as shown in Exhibit_KXD-13.

DISCUSSION OF MS. AHERN'S ROE APPROACH

Q. Has Ms. Ahern previously submitted testimony on the cost of equity to the Commission?

A. Yes, Ms. Ahern has previously submitted very similar testimony to the Commission regarding proxy group selection, the DCF-growth factor, the CAPM and DCF weighting methodology, the risk-free rate determination, Comparable

Earnings Approach, and her risk premium approach in Cases 04-W-1221 and 09-W-0828 involving United Water New Rochelle Inc. and United Water Westchester, Inc. respectively.

Q. Would you please summarize the approach followed by Ms. Ahern in determining her recommended ROE of 11.5% for a one-year rate case?

A. To arrive at her 11.5% ROE recommendation, Ms. Ahern employed four cost of common equity models including the single-stage DCF, the Risk Premium Model (RPM), CAPM, and the Comparable Earnings Model (CEM). Her DCF and CAPM models were applied to a proxy group of 8 water companies. Based on all the four different methods she employed, her base equity returns ranged from 9.79% to a high of 14.5%. She then equally averaged the results of all four methodologies (DCF, CAPM, RPM, and CEM) to arrive at her recommended cost of common equity of 11.5%.

Q. Please describe Ms. Ahern’s DCF methodology.

A. Ms. Ahern applied her DCF approach to a water proxy group consisting of eight water companies.

Her DCF used single-stage earnings growth rates based on Wall Street Analysts' earnings forecast published by *Value Line*, Reuters, Zacks, and Yahoo Finance. In calculating the annual unadjusted dividend yield, Mr. Ahern divided the dividends of a spot date (March 15, 2011) by the average closing stock price of the last 60 days ending March 15, 2011 for each company. She then increased the unadjusted dividend yield by one-half of the assumed EPS growth rate and the unadjusted dividend yield to reflect periodic dividend payment as opposed to continuous payment. Her DCF approach resulted in equity return of 9.79%.

Q. Is Ms. Ahern's DCF approach reasonable?

A. No, it is not. I have concluded that her proxy group and choice of the appropriate growth rate, and weightings of the CAPM and DCF results are inappropriate and without precedent in New York State.

Q. What problem do you see with Ms. Ahern's approach to estimating the growth rate?

A. Ms. Ahern based her DCF growth rates only upon projected growth in earnings. There are two problems with her restricted use of earnings growth. First, Ms. Ahern has not demonstrated a link between long-term earnings growth rates and long-term dividend growth rates. Second, she failed to reveal how her earnings growth estimate would be sustainable in the long-term. The analysts' earnings forecast are explicitly short-term in nature (five-year growth rate), and it is unreasonable for Ms. Ahern to assume that investors extrapolate the short-term forecast into their long-term growth estimates. Ms. Ahern growth estimates are inappropriate as well as unsustainable, and should be rejected as inconsistent with Commission precedent. In its Order in the recent Orange & Rockland Utilities, Inc. electric rate cases (Cases 06-E-1433 and 06-E-1547, issued October 18, 2007), for instance, the Commission stated:

> "The company [Orange and Rockland] has not demonstrated any link between its

earnings per share growth estimate and the future dividend growth of the proxy group based on the actual dividend pay-out policies of the companies in that group. Moreover, there is no evidence suggesting that Orange and Rockland's earnings growth rate estimate is sustainable over time."

Since Ms. Ahern failed to establish the sustainability of her earnings growth rate over time and failed to show any link between her earnings growth estimate and dividend growth, her DCF-derived ROE is unreliable.

Q. Have equity analysts' forecast been accurate assessment of future earnings growth?

A. No. As recent as 2010, *Mckinsey & Company*, a leading management consulting firm concluded in pages 14 and 16 of their research work that, "Analysts, we found, were typically over-optimistic, slow to revise their forecasts to reflect new economic conditions, and prone to making increasingly inaccurate forecasts when

economic growth declined….On average, analysts' forecasts have been almost 100 percent too high." This report is attached as Exhibit_(KXD-17).

Q. Please discuss Ms. Ahern's Proxy group.

A. Ms. Ahern applied her CAPM and DCF approaches to a water proxy group consisting of American State's Water Co.; American Water Works; Aqua America; California Water Service Group; Connecticut Water Service, Inc.; Middlesex Water Company; SJW Corporation, and York Water Company.

Q. Has Ms. Ahern conducted any analysis demonstrating that a proxy group consisting of eight water utilities represents a sufficient number of companies?

A. Ms. Ahern has not presented any independent analysis regarding the appropriateness of an eight-member proxy group in measuring AWC's cost of equity. Instead, she has referenced a book by Dr. Roger Morin (*New Regulatory Finance, page 226*). A review of the publication indicates

that Dr. Morin recommends a sample size of 15 to 30 firms to support a reliable equity return recommendation.

Q. Has the Commission previously addressed the use of proxy groups consisting of electric utilities in determining a water company's cost of equity?

A. Yes. In its Opinion in Case 88-W-113, involving New Rochelle Water Company, the Commission stated that, "In recent years, water companies equity returns have been set on the basis of a proxy group comprising a broad sample of electric utilities..." and concluded on page 31 of the same order that, "Judge Schechter's recommendations to use staff's method are adopted."

Q. Has Ms. Ahern previously addressed the use of publicly traded water companies in constructing a proxy group?

A. Yes, on page 21, lines 1 to 4 of her pre-filed direct testimony in Case 09-W-0824 involving United Water New Rochelle, Inc. (UWNR), Ms Ahern stated that, "Because of the small number of

publicly traded water companies available for use as proxies for UWNR as well as the limited availability of comprehensive investment analyst coverage for those companies, I have also utilized a proxy group of gas distribution companies." She made the same statement in Case 09-W-0828 involving United Water Westchester, Inc. that was decided on December 17, 2010. This is attached as Exhibit_(KXD-18). In order to make up the size deficiency of her six-water company group in the Cases 09-W-0824 and 09-W-0828, Ms. Ahern selected an additional proxy group consisting of gas LDCs that were similar to UWNR.

Q. In this current case, did Ms. Ahern select an additional proxy group to make up the size deficiency of the water proxy group as she did in Cases 09-W-0824 and 09-W-0828 for UWNR and United Water Westchester, Inc., respectively?

A. No, she did not. In response to Staff IR-43 (KXD-14), she explained:

"I have reviewed the relative risks of

the water, electric, combination electric, gas and natural gas distribution industries and have concluded that the investment risk of water utilities has increased over the most recent ten years and water utilities currently face greater investment risk relative to electric, combination electric, gas and natural gas utilities."

Q. Has Ms. Ahern demonstrated that such a significant change in risk has occurred?

A. No. Ms Ahern's Schedules PMA-2 and PMA-3 shows no significant change of relative risks in the water, electric, and gas LDC sectors. In addition, as shown in Exhibit_(KXD-19), an analysis of the relative risk of her typical gas and water proxy groups since 2009 shows no significant change in relative risk measured by beta. If there has been a significant change in relative risk from 2009 to 2011, I would not expect Ms. Ahern to use both gas and water proxy

groups in her testimony in Case 09-W-0824 filed on November 23, 2009. Moreover, a comparison of Ms. Ahern's testimony in this proceeding with her testimony in Case 09-W-0824 demonstrates a reduced risk profile for water companies since 2009. As the Exhibit_(KXD-19) illustrates, Ms. Ahern used six water companies with an average beta of 0.78 in Case 09-W-0824 compared to the average beta of 0.74 in this case. Furthermore, her gas proxy group in case 09-W-0824 contained an average beta of 0.66 in 2009 and it remains the same in 2011.

Q. Please describe Ms. Ahern's CAPM methodology.

A. Ms. Ahern used the same form of CAPM analyses that Staff typically uses. She employed both the traditional CAPM and empirical CAPM (ECAPM). However, there are differences in inputs that overstate her CAPM results. Her CAPM method resulted in an ROE estimate of 10.10%, based on the average of ECAPM and traditional CAPM results of 10.34% and 9.86%, respectively.

Q. Describe how Ms. Ahern derived her 6.91% total

market equity risk premium for her CAPM and ECAPM models.

A. In computing the equity risk premium for her CAPM and empirical CAPM (ECAPM), Ms. Ahern began with an estimate of investors' expected total return on the market and subtracted from that an estimate of the risk-free rate. Her estimate of the equity risk premium averaged 6.91%. The projected equity risk premium was computed by averaging the results of two methods. The first method uses *Value Line* data with which she computed the equity risk premium by subtracting the Blue Chip Consensus average risk-free rate of 4.85% from *Value Line's* total market projection of 11.97% for an equity risk premium of 7.12%. The other method uses Ibbotson Associates' data with which she computed the equity risk premium by subtracting the long-term historical income return on US Government Securities of 5.2% from Ibbotson Associates' long-term historical total rate of return on the market of 11.90% for an equity risk premium of

6.7%. The average of the two approaches, 6.91%, was Ms. Ahern's calculated equity risk premium and was used in her CAPM and ECAPM models. Her market risk premium should be rejected because of the use of stale Ibbotson data which the Commission has consistently rejected.

Q. Please discuss Ms. Ahern's calculation of the risk-free rate of 4.85%.

A. Ms. Ahern's CAPM risk-free rate of 4.85% was based only on the average consensus forecast from the March 1, 2011, edition of the Blue Chip Financial Forecast estimate for yields on the 30-year Treasury bond for the six quarters ending in the second quarter of 2012. Ms. Ahern's choice of the 30-year U.S. Treasury bond as a proxy for the CAPM risk-free rate is based on her argument that the yield on long-term Treasury bonds is almost risk free and consistent with the long-term investment horizon faced by public utilities. Staff's blending of the 10- and 30-year Treasury rates provides a more accurate representation of the average

investor's investment horizon. The use of the 30-year Treasury rate results in inflated CAPM and ECAPM results because the yield on the 30-year Treasury rate was higher than the 10-year Treasury rate.

Q. Has Ms Ahern accurately estimated the market risk premium of 6.91%?

A. No, Ms. Ahern's use of an historical market risk premium using Ibbotson's data for Stocks, Bonds, Bills, and Inflation published by Ibbotson's Associates (now Morningstar) in its Valuation Edition-2010 Yearbook does not accurately estimate the current premium. The estimate is calculated using historical market premiums dating back to 1926 and is based upon stale data that does not reflect the current risk premium.

Q. Has the Commission ever discussed the use of Ibbotson data as a basis for developing a market risk premium?

A. Yes, in Case 95-G-1034, Central Hudson Gas & Electric Corporation – Gas Rates, Opinion No. 96-28 (issued October 3, 1996), the Commission

rejected the use of Ibbotson data. At page 14 of that Opinion, the Commission said, "...the Judge's market return calculation based on Merrill Lynch data is a reasonable method of deriving a risk premium; and it avoids the problems of stale data in the Ibbotson estimate, or the circularity of the implied risk premium approach in relying on other Commission's return on equity allowances." More recently, the Commission also stated in Case 05-E-1222, New York State Electric & Gas Corp. – Electric Rates, Order, (issued August 23, 2005), that, "...NYSEG's reliance on the historic Ibbotson data to estimate the market return is rejected..."

Q. Do you have another reason to reject the use of the Ibbotson data?

A. Yes. It is worthy to note that Mr. Roger Ibbotson himself, in December 2005, admitted that the market risk premium is not constant. In an article entitled "9% Forever," published by Fortune Magazine in December 26, 2005

(Exhibit__(KXD-20)), Mr. Ibbotson indicated that he had considered the criticisms of his long-term market return data and had, therefore, reduced his long-term market return forecast from 10% to 9.27%. Interestingly, the magazine concludes that Mr. Ibbotson agrees now that he can no longer rely on historical equity premium to predict future returns.

Q. Please describe Ms. Ahern's Equity Risk Premium methodology.

A. According to Ms. Ahern, the RPM is based on the basic financial principle that investors require greater returns for bearing greater risk and that the cost of common equity equals the expected cost of long-term debt plus a risk premium. Ms. Ahern determined that the cost of long-term debt is 6.14% for her proxy group of eight water companies. She went through four steps to determine the 6.14% cost of debt. First, Ms. Ahern determined the expected bond yield on Aaa-rated corporate bonds for the six calendar quarters ending with the second quarter

of 2012. In estimating the average prospective yield on Moody's A-rated public utility bond, Ms. Ahern began with Blue Chip Financial Forecast's estimate of Moody's Aaa-rated corporate bond yield of 5.47% and as a second step adjusted that to 5.98% for Moody's A-rated public utility bond. Ms. Ahern believes that the upward adjustment of 0.51% is necessary to account for the average yield spread between an A-rated public utility bonds and Aaa-rated corporate bond. In the third step, she made an upward adjustment of 16 basis points to reflect Moody's A3 bond rating for her proxy group of eight water companies. She derived the 16 basis points by taking one-third of the spread between Baa2 and A2 public utility bonds. Finally, by adding the 16 basis points to 5.98%, she derived the 6.14% cost of long-term debt for her proxy group of eight water companies.

Q. How did Ms Ahern calculate the equity risk premium for her RPM?

A. In estimating the equity risk premium for her

RPM, Ms. Ahern used two different approaches. First, she calculated the equity risk premium of 4.49% based on the total market using the beta approach for her proxy group of eight water companies. Second, she computed a mean equity risk premium of 4.17% based on a study of using various holding period returns for public utilities with A- rated bonds.

Q. Do you agree with Ms. Ahern's RPM for the estimation of the appropriate level of cost of equity?

A. No, I do not agree with her for the same reasons that the Commission has previously rejected the RPM method in determining the cost of equity.

Q. Please discuss the Commission's prior rejections of risk premium analyses?

A. In Opinion 96-28, Case 95-G-1034, Central Hudson Gas & Electric Corporation – Gas Rates, issued October 3, 1996, the Commission stated specifically, "...we have avoided reliance on the risk premium approach because it reflects allowed returns which are an inferior

alternative to a direct estimate of a company's own cost of equity." The same criticism applies to Ms. Ahern's RPM based estimate. Therefore, the Commission should continue to reject this methodology.

Q. Do you have any other concern regarding Ms. Ahern's use of equity risk premium approach?

A. Yes, Ms. Ahern estimated the 4.17% market risk premium by subtracting the average long-term utility bond return for the period 1926 to 2009 from the arithmetic mean of actual, realized return on equity capital for the Standard Poor's Utility Index for the same period. She then applied her final RPM ROE results of 10.47% to LIAW. In doing so, Ms. Ahern is indirectly taking risk premiums of a group of companies and applying the results to LIAW regardless of any differences in credit quality, regulatory environment, or numerous other factors. Ms. Ahern does not attempt to determine the extent to which LIAW is more or less risky than the average electric utility contained in the S&P's

electric utility common stock index. Moreover, Ms. Ahern did not evaluate the market-to-book ratios for the companies in the Standard & Poor's Utility Index to determine whether the past returns on common equity are above or below investors' requirements.

Q. Do you have any comments regarding Ms. Ahern's equal weighting of the DCF and CAPM results?

A. Yes. The Commission has consistently used the DCF as its primary methodology for determining ROE by applying a 2/3 weighting in the determination of the cost of equity. The 2/3 DCF and 1/3 CAPM weighting has been affirmed in 2008 by the Commission's Order in Case 07-E-0523 Consolidated Edison Company of New York, Inc. - Electric Rates, and in 2007 by the Commission's Order in Case 07-G-0141, National Fuel Gas Supply Co. – Gas Rates. The Commission stated, "We also agree with Staff, CPB, and Multiple Interveners that the Company (NFG) has not provided any compelling reasons to provide equal weight to the DCF and the CAPM methods...

Accordingly, we will continue to use the two-thirds DCF Method and one-third CAPM method weighting in this case." Similarly, on pages 14 and 15 of the Commission's Order in Cases 06-E-1433 and 06-E-1547, Orange & Rockland Utilities, Inc. - Electric Rates, the Commission stated, "We will continue to accord two-thirds weight to the DCF result and one-third to the CAPM result as we have in past decisions." Ms. Ahern has not presented any new evidence that the Commission should reject its long-standing policy of a two-third and one-third weighting of the DCF and CAPM and her equal weighting approach should be again rejected.

Q. Please describe Ms. Ahern's Comparable Earnings methodology.

A. On pages 57 through 61 of her testimony, Ms. Ahern employed a Comparable Earnings Model (CEM) to estimate LIAW's cost of equity. According to Ms. Ahern, the basis for her Comparable Earnings analysis is that the return to the equity investor should be commensurate with returns on

investment in firms with similar risks. In choosing the similar enterprise group, Ms Ahern chose a proxy group of domestic, non-regulated firms to reflect the systematic and non-systematic risks of LIAW. Her selection criteria were that they be domestic, non-utility companies, have a meaningful rate of return, net worth or partner's capital reported in *Value Line* projected for 2014 to 2016. She also used Value Line betas as a measure of systematic risk and the standard error of the regression was used as a measure of unsystematic risk. Ms. Ahern's CEM approach yielded an ROE of 14.40%.

Q. Do you have any concern about Ms. Ahern's CEM approach?

A. Yes, while her basic doctrine is correct, Ms. Ahern's analysis contains several flaws that render her results useless. First, Ms. Ahern's analysis is based upon a comparison of the earned returns of a surrogate group of competitive companies and applying the earned returns to the equity cost rate of LIAW. In

addition, Ms. Ahern fails to recognize that the historical earned returns of the proxy group do not represent the required future cost of equity. That is, a firm may earn above or below its cost of equity.

Q. Is Ms. Ahern aware of the Commission's position on the Comparable Earnings Model approach?

A. In response to Staff IR-4 (KXD-4), Ms Ahern stated, "The witness (*Ms. Ahern*) is not aware of any decision of the Commission which accepted the use of the Comparable Earnings approach in determining the allowed cost of equity for utilities regulated by the Commission."

Q. What is the Commission's position on the Comparable Earnings Model approach?

A. The Commission has specifically rejected the use of the Comparable Earning Methodology in the past. In Opinion No. 96-28, Case 95-G-1034, Central Hudson Gas & Electric Corporation – Gas Rates, Opinion No. 96-28(issued October 3, 1996), the Commission stated on page 13: "…we have consistently found the comparable earnings

approach unreliable because it does not adequately reflect the cost of equity of the companies in the proxy group." Similarly, the Co-facilitators in the Generic Finance Case recommended decision rejected using this approach in setting a return. On page 47 they stated:

> "…that approach, for a number of reasons, has almost nothing to do with determining the cost of equity, even for competitive firms. Observations of reported book earnings have only a tenuous link to the cost of equity in any given year, and the inclusion of six observations—one forecast, one current, and four historical—does not cure that defect. Investors in the companies in the "comparable" group do not earn the returns included in the analysis; they earn returns based on the prices they paid for their investments."

Q. Did Ms. Ahern propose any adjustments to her base ROE of 10.55%?

A. Yes, she did. Ms. Ahern is proposing a size/business risk premium adjustment of 35 basis points, financial risk adjustment of 49 basis points, and flotation cost adjustment of 11 basis points.

Q. What justification did Ms. Ahern provide for her size/business risk premium adjustment of 35 basis points?

A. She argues that because LIAW's size is small relative to that of the average company in her proxy group of water companies, an upward adjustment to the cost of equity is required.

Q. Is Ms. Ahern aware of any rate case decision in which the Commission has accepted the use of a size premium adjustment in determining the allowed cost of equity for utilities regulated by the Commission?

A. In response to Staff IR-1 (KXD-1), Ms. Ahern stated that, "I am not personally aware of any decision of the Commission that accepted the use

of a size premium / size adjustment in determining the allowed cost of equity for utilities. That is not to say it has never been done."

Q. Has the Commission ever granted a cost of equity based on company size?

A. To the best of my knowledge, the Commission has never granted a higher cost of common equity based on a company's size.

Q. Do you believe that a size adjustment is required in this proceeding?

A. No, I do not. My review of available financial research reports and Ms. Ahern's rationale for making such an adjustment demonstrates that the adjustment is not necessary and the Commission should not deviate from its established policy.

Q. Please discuss the research work you analyzed that concluded that size premium is unwarranted?

A. I have reviewed three research papers on this topic. First, in a paper entitled "*Utility Stocks and the Size Effect: An Empirical Analysis*", Professor Wong offered a number of

reasons why size premium would not be applicable to regulated utilities. Using data of 152 electric and gas companies to examine whether size effect exists in the public utility industry, Professor Wong concluded that there is no need to adjust for firm size in utility regulation. This is because utilities, unlike their industrial counterparts, are heavily regulated and they follow similar accounting procedures. Moreover, utilities need to gain approvals for security issuances and their revenues are predetermined to a certain extent through ratemaking process involving state commissions, interested parties, and other witnesses, as in this case. Therefore, due to regulation, government oversight, performance reviews, similar accounting standards, and information disclosure, size premium even if it exists all, does apply to regulated utilities. This report is attached as Exhibit_(KXD-21). In another study by Richard Roll (1983), the author found that one-half of the historic return

premium for small companies disappears once biases are eliminated and historic returns are properly computed. The error arises from the assumption of monthly portfolio rebalancing and the serial correlation in historic small firm returns. This report is attached as Exhibit_(KXD-22). Third, as recent as 2009, Ching-Chih Lu (2009) in page 4 of a paper entitled *"The Size Premium in the Long Run"*, concluded that:

> "However, an analysis of the evolution of the size premium will show that it is inappropriate to attach a fixed amount of premium to the cost of equity of a firm simply because of its current market capitalization. For a small stock portfolio which does not rebalance since the day it was constructed, its annual return and the size premium are all declining over years instead of staying at a relatively stable level. This

confirms that a small firm should not be expected to have a higher size premium going forward sheerly because it is small now."

This report is attached as Exhibit_(KXD-23).

Q. Has any rating agency spoken to the issue of the effect of size on regulated entities?

A. Yes. The fact that smaller water utilities are not necessarily riskier than larger water utilities was underscored in a recent S&P's publication in which twenty-six western water and sewer companies were upgraded. On page 3 of the report, S&P stated:

"Our criteria revision reflects our view that for general obligation ratings, a small and/or rural issuer does not necessarily have what we consider weaker credit quality than a larger or more-urban issuer. Although we assess these factors in our credit analysis for some revenue bond ratings, we believe many municipal

systems still exhibit, in our view, strong and stable credit quality despite size or location constraints. While we believe that smaller or rural utility systems may not necessarily benefit from the economies of scale that can lead to more-efficient operations or lower costs, in our view, they can still have affordable rates, even in places with less-than-favorable household income and wealth levels."

The report is also attached as Exhibit_(KXD-24).

Q. Has Ms. Ahern provided any research report demonstrating her claim that size premium matters?

A. Yes. In response to Staff IR-1 (KXD-1), Ms. Ahern provided Ibbotson Associates size premium study. She also provided another related study by Thomas M. Zepp in a paper entitled, *"Utility stocks and the size effect—revisited".* That paper stated that Professor Wong's report "does

not rule out the possibility of a small firm effect for utilities" and that such conclusion should be reexamined in view of two other studies that support a conclusion that smaller water utility stocks are more risky than larger ones.

Q. Do you have any comments about the articles provided by Ms. Ahern?

A. Yes, I have two comments about Thomas M. Zepp's report. First, the sample size in one of the cited case studies was too small to produce any reliable results. In that cited case study, the sample size of "Larger water utilities" consists of only two companies including American States Water and California Water Service while that for the "Smaller water utilities" was just two consisting of Dominguez Water Company and SJW Corporation. In contrast, Professor Wong employed 152 gas and electric utilities. Therefore, I find Professor Wong's report more reliable than that relied on in Mr. Zepp's article. Moreover, as said earlier, a recent

report by Ching-Chih Lu (2009) questioned the size premium adder. Lu concluded, "…it is inappropriate to attach a fixed amount of premium to the cost of equity of a firm simply because of its current market capitalization." As for the use of Ibbotson size premium study, there are already problems with their stock data including delisting bias that when corrected for, causes the small stock effect to disappear. Moreover, in discussing three aspects of the size premium, Ibbotson stated that, "…the firm size effect is seasonal. For example, small company stocks outperformed large company stocks in the month of January in a large majority of the years. Such predictability is surprising and suspicious in the light of modern capital market theory." This statement implies that the excess returns occurred in only a few trading days of January and is not a generalized phenomenon over the entire year. Moreover, even if one acknowledges the Ibbotson study as an evidence of an existence of a size premium,

nothing in the study supports Ms. Ahern's conclusion that a size premium is warranted for utility companies. This is because the study is heavily weighted with industrial stocks that are listed on the entire population of NYSE, American Stock Exchange (AMEX), and Nasdaq. Thus, Ms. Ahern's business risk adjustment is unfounded and should be denied.

Q. Do you have any empirical evidence that further moots the size premium adder advocated by Ms. Ahern?

A. Yes. In page 23 of her testimony, Ms. Ahern quoted Eugene F. Brigham that, "A number of researchers have observed that portfolios of small-firms have earned consistently higher average returns than those of large-firms stocks; this is called 'small-firm effect'." Using regression analysis and hypothesis testing, I then conducted a study to investigate if there is an evidence of any size effect in the Water sector. The results shown in Exhibit_(KXD-25), suggest that there is no

evidence of size effect in the water industry. Based upon this review and analysis, I recommend that Ms. Ahern's size premium adder of 35 basis points should be denied.

Q. You noted earlier that Ms. Ahern proposed financial risk adjustment of 49 basis points. Please briefly describe it.

A. Ms. Ahern has used a Hamada adjustment to estimate the 49 basis point upward adjustment to reflect the financial risks of LIAW versus a proxy group. In computing her proxy group equity ratio of 44.7% she included the preferred stock of the companies into the ratio. The inclusion of preferred stock in her calculation of the group's equity ratio is incorrect as the proper implementation of the Hamada equation does not include preferred stock but rather only the common equity ratio. As Ms. Ahern describes on page 65 of her testimony, the debt to equity is defined as debt to common equity. Moreover, preferred stock should not be characterized as common stock unless it has the features of a

common stock. She has not demonstrated that such features occur in her proxy group.

Q. You noted earlier that Ms. Ahern made a flotation cost adjustment of 11 basis points. Could you briefly describe it?

A. Ms. Ahern seeks the 11 basis points upward flotation cost adjustment as a means to recover costs involved in past security issuances. In order to determine the flotation cost adjustment for the Company, Ms. Ahern relied on the transaction costs associated with the parent's public stock issuances for 2008 and 2009, the average flotation cost percentage resulting from these historical stock issuance costs is 3.3%. Using a modified DCF methodology, the flotation cost percentage equates to an 11 basis points upward adjustment to her base ROE.

Q. Do you agree with Ms. Ahern's flotation cost adjustments of 11 basis points to her base ROE to compensate Long Island Water for common equity issuance costs?

A. I agree with Ms. Ahern to the extent that a

flotation cost adjustment does not retroactively recover past common stock issuances. In this proceeding, the Company plans to receive two equity infusions consisting of $3 million in 2011 and $3.25 million in 2012. In response to Staff IR-104 (KXD-35), the Company stated that, “No costs/expenses are to be borne by LIAW due to the $3.0 million and $3.25 million equity infusions….” Because the Company has indicated that it will not incur any issuance expense within the rate year, I recommend that the 11 basis points flotation cost should be denied. Moreover, the Company refused to submit 2011 and 2012 financial statements for AWW, therefore, it has not demonstrated if they will be funding the equity infusion with AWW's cash from operations, selling some of AWW's operations, or by issuing debt (short or long-term) versus an equity issuance at the parent level. As noted earlier, the Commission does not allow a utility to retroactively recover common equity issuance costs from ratepayers. Ms. Ahern’s position of

recovering historical issuance expenses is not consistent with prior orders from this Commission. Moreover, if the 11 basis points (based on the 3.3% parent's flotation cost) were to be paid by LIAW, then the company would in effect be "cross subsidizing" AWW's other subsidiaries that might have received equity funding from the parent.

REASONABLENESS CHECK

Q. How does your recommended ROE of 8.9% for LIAW compare to those allowed in recent rate proceedings in NYS?

A. As recently as June 16, 2011, the Commission awarded an ROE of 9.2% for Orange & Rockland Utilities, Inc. (Case 10-E-0362) for a one-year rate case. Given the decline in the interest rate environment that has occurred since that decision, it is reasonable that equity investors would require slightly lower returns at this time.

Q. Given the overall ROE of 8.9%, will the company be able to maintain its financial integrity?

A. Yes, my rate of return satisfies the relevant criteria for "BBB" rated utilities with a business profile of “Excellent” as presented by Standard and Poor's. These calculations are found on Exhibit_(KXD-7).

Conclusion

Q. Please summarize the results of your ROE recommendation.

A. I recommend an ROE of 8.9%. This recommendation is based on my proxy group result, composed of two-thirds the median DCF result of 8.50% and one-third the average CAPM result of 9.60%, with no adjustment for financial and business risks.

Q. What is your recommended rate of return for LIAW?

A. As summarized below, my recommended after-tax rate of return for LIAW is 7.21%

	Capitalization Ratio	Cost Rate	Weighted Cost
Long-Term Debt	55.35%	5.92%	3.28%
Preferred Stock	0.89%	4.50%	0.04%
Common Equity	43.76%	8.90%	3.89%

1	Total	100.00%	7.21%

2 Q. Does this conclude your testimony?

3 A. At this time, yes.