DIRECT TESTIMONY

OF

GERALD C. HARTMAN, P.E., BCEE, ASA

TO

THE STATE OF FLORIDA

PUBLIC SERVICE COMMISSION

RE: APPLICATION OF SKYLAND UTILITIES, LLC

FOR ORIGINAL WATER AND WASTEWATER CERTIFICATES

IN HERNANDO AND PASCO COUNTIES, FLORIDA

DOCKET NUMBER 090478-WS

APRIL 2010

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Q. State your name and address.

A. Gerald Charles Hartman, P.E., BCEE, ASA, GAI Consultants, Inc., 301 E. Pine Street, Suite 1020, Orlando, Florida 32801.

Q. Mr. Hartman, are you a registered professional engineer in the State of Florida?

A. Yes. My registration number is 27703.

Q. Mr. Hartman, do you possess additional certifications?

A. Yes, I am also an Accredited Senior Appraiser specializing in utilities, certification number 7542.

Q. Mr. Hartman, what is your area of specialty at GAI Consultants, Inc.?

A. I specialize primarily in water and wastewater utility matters.

Q. Do you have a designation beyond your professional engineer's license and appraiser certification?

A. Yes. I am a Board Certified Environmental Engineer in the American Academy of Environmental Engineers with the water and wastewater specialty designation.

Q. Have you been accepted by the Florida Public Service Commission to render testimony concerning utility management, rate setting and engineering on original water certificates and/or service area modifications?

A. Yes, I have on a few occasions over the past 25+ years.

Q. In what areas are you going to provide testimony in this matter?

A. In utility management, rate setting, engineering, financial and technical ability and need for service associated with the application of

Skyland Utilities, LLC, and for the Florida Public Service Commission original water and wastewater certificate.

Q. Was the application for certification and supporting exhibits and appendices prepared by your firm?

A. Yes, our firm prepared the engineering, accounting, and utility management aspects of the application on behalf of our client, Skyland Utilities, LLC.

Q. Was the application submitted to the Public Service Commission with the associated supporting exhibits and appendices on record at the Commission?

A. Yes, and with the Exhibit GCH-1 to this Direct Testimony, which includes the original application, supporting exhibits and appendices and the associated maps concerning the original water and wastewater certificates for Skyland Utilities, LLC.

Q. Are the matters contained in the application and supporting documentation true, accurate and/or an appropriate representation to the Florida Public Service Commission in your opinion?

A. Yes, they are.

Q. Based upon your review of the application and associated documents, do you believe that such documents meet the requirements for regulation by the Florida Public Service Commission?

A. Yes, they do. The territory proposed for service by the applicant, Skyland Utilities, LLC, has a need for such services delineated in the application. These include potable and non-potable water and wastewater services to bulk exempt, bulk non-exempt, intensified agribusiness,

residential and general service customers. A service request letter from Mr. J. Emmett Evans III, Vice President of Evans Properties, Inc., is contained in Appendix I. Mr. Ron Edwards, President of Evans Properties, has also included a letter supporting the application with a more general request for service. Evans Properties, Inc. owns all of the land within Skyland's proposed service territory. The near term need for water and wastewater services for Skyland are several existing properties, intensified agribusiness and the first phase of development as detailed in Exhibits D and F and Appendix I of the application. It is anticipated that development will occur in five (5) separate phases as outlined in Appendix I. Because Skyland's proposed service territory traverses county boundaries, the Florida Public Service Commission should be the entity to grant the requested water and wastewater certificates.

Q. Will the certification of Skyland Utilities, LLC, be in competition or a duplication of any other system?

A. No other system serves the proposed service territory or is in as good a position to provide such services as and when needed. All property within the proposed service territory is owned by Evans Properties, Inc. and is currently involved in agribusiness operations.

Q. Have you had occasion to review the utility service areas in this region?

A. Yes, I am familiar with the Hernando County, Pasco County, City of Brooksville and Dade City's service areas.

Q. Is it a conclusion of your review of the existing service areas in the region that the Skyland utility system will not be in competition or duplication of any other system?

A. Yes, that is my utility management engineering opinion.

Q. Does Skyland have the technical ability to serve the requested territory?

A. Yes, as provided in Exhibit I of the application. Skyland Utilities, LLC is a wholly owned subsidiary of Evans Utilities Company, Inc. which is a wholly owned subsidiary of Evans Properties, Inc. Evans Properties, Inc. is a private company and has been in the agribusiness industry for over 50 years in Florida. Evans Properties, Inc. has vast experience in water management through its agricultural oversight and has been a leader in water conservation measures and innovative resource management techniques for use of non-potable water. Evans Properties, Inc. has won awards and recognition for their environmental stewardship.

Q. Does Skyland have the financial ability to effectively implement and manage a utility system?

A. Yes, as provided in Exhibit I of the application. As an affiliate of Evans Properties, Inc., Skyland has the financial backing to be a successful utility. Evans Properties, Inc. is a significant land-owner in Florida and has been in the agribusiness industry for over 50 years. They have agreed to provide funding to Skyland. A copy of the funding agreement between Skyland and Evans can by found in Appendix VII of the application.

Q. Does Skyland have an adequate water supply to provide utility service in the proposed service territory?

A. Yes. Evans Properties, Inc. has existing wells that they will transfer to Skyland which will provide an adequate supply of water.

Q. Does Skyland plan on implementing sufficient water and wastewater capacity to serve the requested territory?

A. Yes. We have included descriptions and a conceptual layout of the facilities needed to serve Skyland's anticipated customers. These can be found in Exhibits C, D and F and Appendix III and V of the application.

Q. Does Skyland have continued use of the land upon which the utility facilities are or will be located?

A. Yes, as provided in the application and supporting documents. Appendix IV and Appendix VI of the application contain lease agreements between Evans Properties, Inc. and Skyland giving them a long-term lease on the land where water/wastewater facilities will be located.

Q. Is the rate setting analysis presented in Exhibit GCH-1?

A. Yes, Appendix VII of the application contains the cost of service study.

Q. What types of rates and charges are you proposing for Skyland?

A. We are proposing a potable water rate, wastewater rate, plant capacity charge and some standard miscellaneous service charges.

Q. How were costs established in the cost of service study?

A. We conceptually designed water and wastewater facilities (plant and line) that would be necessary to serve the ERC equivalent of development within the proposed service territory assuming adherence to the

appropriate county's comprehensive plan density restrictions. We phased the addition of ERCs over five (5) phases with costs calculated for Phase I and reaching an 80% capacity for Phase I, and thus a test year, in year six (6). Capital and operation and maintenance costs were calculated for the development of the system and anticipated flows for the test year.

Q. What is the appropriate return on equity for Skyland?

A. On December 31, 2008, the Public Service Commission issued Order No. PSC-08-0846-FOF-WS reestablishing an authorized range of return on common equity for water and wastewater utilities, which I have included as Exhibit GCH-2. This leverage formula was used as the basis for the rate of return on equity for Skyland. On June 19, 2009, the PSC issued order number PSC-09-0430-PAA-WS establishing the authorized range of returns which we used for Skyland. That order is also included in Exhibit GCH-2.

Q. Are you expecting to provide rebuttal testimony?

A. To the extent that it is needed, Yes.

Q. Do you have a resume?

A. Yes, that is attached as Exhibit GCH-3.

Q. Does this conclude your Direct Testimony?

A. Yes.

End of Testimony.

Dated this 2nd day of April, 2010

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Engineering Business #09951
Gerald C. Hartman, P.E., BCEE, ASA
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4/2/10
Gerald C. Hartman, P.E., BCEE, ASA
Vice President
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EXHIBIT GCH-2

DECEMBER 31, 2008, FLORIDA PUBLIC SERVICE COMMISSION ISSUED ORDER NO. PSC-08-0846-FOF-WS REESTABLISHING AN AUTHORIZED RANGE OF RETURN ON COMMON EQUITY FOR WATER AND WASTEWATER UTILITIES AND UPHOLDING THE USE OF THE LEVERAGE FORMULA

AND

JUNE 19, 2009, FLORIDA PUBLIC SERVICE COMMISSION ISSUED ORDER NO. PSC-09-0430-PAA-WS ESTABLISHING AUTHORIZED RANGE OF RETURNS FOR WATER AND WASTEWATER UTILITIES

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Water and wastewater industry annual reestablishment of authorized range of return on common equity for water and wastewater utilities pursuant to Section 367.081(4)(f), F.S.	DOCKET NO. 080006-WS ORDER NO. PSC-08-0846-FOF-WS ISSUED: December 31, 2008

The following Commissioners participated in the disposition of this matter:

MATTHEW M. CARTER II, Chairman
LISA POLAK EDGAR
KATRINA J. McMURRIAN
NANCY ARGENZIANO
NATHAN A. SKOP

APPEARANCES:

MARTIN S. FRIEDMAN, ESQUIRE, c/o Rose, Sundstrom & Bentley, LLP, 2180 West State Road 434, Suite 2118, Longwood, Florida 32779
On behalf of UTILITIES INC. (Utilities, Inc.).

CHARLIE BECK, ESQUIRE, c/o The Florida Legislature, 111 West Madison Street, Room 812, Tallahassee, Florida 32399-1400
On behalf of Office of Public Counsel(OPC).

JEAN E. HARTMAN, ESQUIRE, Florida Public Service Commission, 2540 Shumard Oak Boulevard, Tallahassee, Florida 32399-0850
On behalf of the Florida Public Service Commission (Staff).

ORDER APPROVING METHODOLOGY AND ESTABLISHING AUTHORIZED RANGE OF RETURNS ON COMMON EQUITY FOR WATER AND WASTEWATER UTILITIES

BY THE COMMISSION:

Background

Section 367.081(4)(f), Florida Statutes (F.S.), authorizes us to establish, not less than once each year, a leverage formula to calculate a reasonable range of returns on equity (ROE) for

water and wastewater (WAW) utilities. In Docket No. 070006-WS, we established the current leverage formula by Order No. PSC-07-0472-PAA-WS.[1]

On May 8, 2008, our staff filed a recommendation asking us to approve the recommended 2008 leverage formula. At the May 20 Agenda Conference, after hearing from Commission staff and from counsel of the Office of Public Counsel (OPC) and Utilities, Inc. (UI), we decided that it would be appropriate and administratively efficient to set the establishment of the 2008 leverage formula for WAW utilities directly for hearing.

A prehearing conference was held October 13, 2008, and Prehearing Order No. PSC-08-0702-PHO-WS was issued on October 21, 2008. The formal hearing was held on October 23, 2008. OPC and UI sponsored witnesses and participated at the hearing.

This Order addresses the issues and evidence presented at the October 23, 2008 hearing. We have jurisdiction pursuant to Section 367.081, Florida Statutes.

Appropriate Methodology

Witness James A. Rothschild, testifying on behalf of the OPC, employed two cost of capital models in his analysis. He applied the Discounted Cash Flow (DCF) model to the natural gas index set forth by us in Order No. PSC-01-2514-FOF-WS (2001 Order).[2] A hearing was last held by us on our WAW ROE leverage formula methodology in 2001. Each year since the 2001 Order, we have updated the WAW ROE leverage formula for current financial information. Witness Rothschild applied a modified version of the Capital Asset Pricing Model (CAPM) to ten groups of companies selected from the Ibbotson Associates 2008 Yearbook. The results of these analyses and the application of his professional judgment led the witness to suggest revisions to the DCF and CAPM methods used by Commission staff in its recommendation filed May 8, 2008.

Although witness Rothschild has some differences of opinion regarding certain inputs to the DCF and CAPM methods used by us, those differences do not extend to the use of the DCF and CAPM as appropriate financial models, nor do the differences extend to the use of the comparative group of gas companies for his analyses. Witness Rothschild agrees with the use of a DCF model applied to the natural gas index as set forth in the 2001 Order.

Witness Pauline M. Ahern, appearing on behalf of UI, testifies that the results of the leverage formula included in our staff's May 8, 2008, recommendation are reasonable for establishing a return on equity for WAW utilities in Florida. Witness Ahern determined the appropriateness of the allowed return on common equity incorporated in staff's recommendation by applying four cost of capital models. She applied the DCF model, CAPM, Risk Premium

[1] Order No. PSC-07-472-PAA-WS, issued June 1, 2007, was consummated and made final by Order No. PSC-07-0526-CO-WS, issued June 25, 2007.

[2] Order No. PSC-01-2514-FOF-WS, issued December 24, 2001, in Docket No. 010006-WS, In re: Water and wastewater industry annual reestablishment of authorized range of return on common equity of water and wastewater utilities pursuant to Section 367.081(4)(f), F.S..

Model, and the Comparable Earnings Model to the market data of a proxy group of AUS Utility Reports water companies as well as the companies in the natural gas proxy group.

Witness Ahern does not agree with the modifications to the application of the DCF model recommended by witness Rothschild. She believes his recommended changes to the inputs to the DCF and CAPM would inappropriately understate the required return on equity for WAW utilities in Florida.

Both witnesses agree that the DCF model is an appropriate model for estimating a fair and reasonable return on a WAW utility's common equity capital. Both witnesses also agree that the CAPM is an appropriate model for estimating a fair and reasonable return on a WAW utility's common equity capital. While witness Rothschild agrees that the DCF model and CAPM should be used to estimate return, he suggests certain modifications be made to our application of the CAPM. Witness Ahern testifies the models used in our current leverage formula methodology are fair and reasonable.

Witness Rothschild opposes the use of analyst forecasts of growth rates in the DCF model used to calculate the risk premium input for the CAPM. Witness Ahern disagrees, claiming that witness Rothschild provides no basis for this assertion. Witness Ahern calculated risk premium cost rates using both versions of the DCF model. This analysis concluded that the difference in the average common equity cost rate as well as the median equity cost rate for the two models was .05%. In addition, the results of both models were lower than witness Rothschild's DCF model results.

Based on an analysis of this issue and review of the witnesses' testimonies, we find that the DCF and CAPM models continue to be the most appropriate methods to estimate the return on common equity capital for WAW utilities in Florida. Therefore, based on the record in this proceeding, we find that the most appropriate models to estimate a fair and reasonable return for a WAW utility for inclusion in the leverage formula are the DCF model and the CAPM.

Individual Utility's Equity Ratio

OPC and UI both agree that the leverage formula should take into account an individual utility's equity ratio in the determination of ROE. Historically, our WAW ROE leverage formula has specifically adjusted the cost of equity consistent with a utility's capital structure. We agree with the position of the parties on this issue and find it is appropriate that the leverage formula methodology continue to take into account an individual utility's equity ratio in the determination of return on equity.

The Cost of Debt

OPC witness Rothschild testifies that the leverage formula methodology should take into account the change to the cost of debt in response to changes in the level of common equity in a utility's capital structure. He believes that, when computing the overall cost of capital for a particular company, both the cost of equity derived from the leverage formula that is consistent with the subject company's capital structure and the actual embedded cost of debt of the subject

company must be used. Witness Rothschild argues that the work done by Modigliani and Miller is generally regarded as the breakthrough work on the relationship between capital structure and cost of capital, and that this work forms the basis for the leverage formula used by us.[3] Witness Rothschild argues that Modigliani and Miller showed that, if it were not for income taxes and bankruptcy risk, the capital structure selected by a company would have no impact on the overall cost of capital. Witness Rothschild believes that the cost of debt must vary in response to changes in the level of common equity in a utility's capital structure since the overall cost of capital remains constant over different capital structures and the cost of equity varies depending on the equity ratio. He asserts that the relationship between bond ratings and capital structure for the natural gas index shows that the cost of debt does vary in relation to the equity ratio.

Rather than merely assign the same cost of capital to all WAW utilities, witness Rothschild notes the concept behind the leverage formula begins by recognizing that each utility uses a different capital structure. He believes that, because utilities use different capital structures, even if the overall cost of capital were the same from company to company, the cost of equity would change due to variations in the capital structures used. In other words, the witness believes two WAW companies that have the same business risk will have different financial risk if they use different capital structures. He states that the Modigliani and Miller principle tells us that as the percentage of common equity goes up, financial risk goes down, which causes both the cost of debt and the cost of equity to go down. Witness Rothschild argues that the expectation of the lower cost of debt must be modeled into the determination of the leverage formula for it to produce a correct answer.

UI witness Ahern testifies that holding the debt cost rate constant for purposes of deriving the WAW ROE leverage formula is reasonable for two reasons. First, she states that the revenue requirement formula ensures that the regulated utility will receive sufficient earnings to compensate for the expenses it incurs to service both its debt and equity obligations. Witness Ahern adds that, in the ratemaking process, the embedded cost of debt is utilized in the calculation of the overall rate of return. In addition, she states that the cost of debt is a function of many factors. The bond rating process itself indicates that bond ratings are not simply and exclusively a function of debt ratios, especially historical or point in time debt ratios.

Witness Ahern testifies that the current leverage formula assumes that if Florida WAW utilities had bonds which were rated, they would be rated Baa3 by Moody's, which is equivalent to a BBB- by Standard & Poor's (S&P). She notes the bond rating process is comprehensive, both qualitative and quantitative, and does not focus exclusively on the debt ratio. Witness Ahern explains that the business risk/financial risk matrix indicates that utilities with a BBB- rating and a weak business risk profile would likely have a modest financial risk profile, and those with a strong business risk profile would likely have an aggressive financial risk profile. The range of financial risk indicative ratios published by S&P are shown on page 12 of Exhibit 23. The total debt to total capital indicative ratios for utilities with a modest financial risk profile

[3] Franco Modigliani and Merton Miller, professors at the Graduate School of Industrial Administration at the Carnegie Mellon University, in 1958 developed the theorem that forms the basis for modern thinking on capital structure. The basic theorem states that, in the absence of taxes, bankruptcy costs, asymmetric information, and an inefficient market, the value of a firm is unaffected by the mix of capital used to finance its operations.

range from 25 percent to 40 percent, while those with an aggressive financial risk profile range from 45 percent to 60 percent. Witness Ahern asserts that utilities with BBB- bond ratings by S&P (and Baa3 by Moody's) could have debt ratios ranging from 25 percent to 60 percent and still maintain the BBB- (Baa3) bond rating. Based on this review, witness Ahern concluded it was not necessary to allow the cost rate of debt to vary in the derivation of our WAW ROE leverage formula.

We agree with witness Ahern that it is not necessary to allow the cost rate for debt to vary in the derivation of the leverage formula. Both witnesses agree the primary purpose of our WAW ROE leverage formula is to provide an easily-applied mechanism to avoid the expense and burden of hiring expert cost of capital witnesses for each WAW proceeding. In addition to the reasons offered by witness Ahern for why such an adjustment is not necessary, from a practical standpoint, we find it would be administratively burdensome to recalibrate the WAW ROE leverage formula each time it is used. For these reasons, we do not find it is necessary to vary the cost rate of debt in the derivation of our WAW ROE leverage formula.

Before-Tax or After-Tax Cost of Capital

OPC witness Rothschild testifies that the determination of the leverage formula should be based on a before-tax cost of capital. In his opinion, this will provide the cost of equity as experienced by equity investors. Witness Rothschild states that it is important that we use the before-tax cost of capital so customers are not harmed by excessive use of equity in the capital structure of WAW utilities in Florida. He states that, if our goal is to compute the cost of equity as experienced by equity investors, the overall cost of capital that should be held constant is the one determined prior to consideration of income taxes. He asserts that, since a utility is only entitled to recover prudently incurred costs, absent a showing of why a particular company cannot finance its rate base with a reasonable amount of debt, a company is only entitled to charge ratepayers for a leverage formula-determined cost of capital that considers the real-world impact of taxes. Witness Rothschild believes that, if there is a utility with a special situation that could explain why it is appropriate for it to use an excessively high level of common equity in its capital structure, it could ask us to give it a return in excess of the amount determined by the leverage formula. Without such a showing, it would be inappropriate to charge ratepayers the higher cost of an inherently inefficient capital structure.

Witness Rothschild contends that, if we do not use the before-tax cost of capital, the leverage formula would fail to include the effect of income taxes. He believes the version of the formula that fails to include the effect of income taxes would not make the capital structure selected indifferent to ratepayers. According to his reading of Modigliani and Miller's paper, there is an optimal capital structure when income taxes are taken into account. If a company uses too much or too little equity, inefficiency is produced.

Witness Rothschild believes that regulation should be a substitute for competition. He asserts that if a company uses an inefficient capital structure and its competition is using an efficient capital structure, the one using the inefficient capital structure will earn a lower return.

It is witness Rothschild's opinion that using a before-tax cost of capital in the leverage formula provides this result, and that the use of an after-tax cost of capital will not.

UI witness Ahern testifies that the determination of the leverage formula should be based on an after income tax overall cost of capital. She states that to do otherwise assumes the revenue cost of capital is identical over an equity ratio range of 40 percent to 100 percent, which is not the case. Witness Ahern agrees with witness Rothschild's summation of Modigliani and Miller's principle, stating that "Modigliani and Miller showed that if it were not for income taxes and bankruptcy risk, the capital structure selected by a company would have no impact on the overall cost of capital." However, by holding the before income tax overall cost of capital constant, witness Ahern testifies that witness Rothschild's recommendation results in the exact opposite, and that differing amounts of debt and equity in the capital structure have absolutely no impact on the revenue cost of capital. This led witness Ahern to recommend that we reject witness Rothschild's proposal that the before income tax overall cost of capital be held constant in the leverage formula.

We find that witness Rothschild has an incomplete understanding of Modigliani and Miller's work in this area. While it is true the 1958 paper by Modigliani and Miller that first put forth the principle upon which our leverage formula is based was done so without consideration of taxes, Modigliani and Miller published a number of follow-up papers discussing this principle. Their continued work in this area showed that when corporate and personal taxes are considered, the results lead to the same conclusions Modigliani and Miller reached in their earlier paper. Since the results are the same with or without consideration of taxes, it is not necessary to explicitly consider taxes when determining the relationship between financial leverage and the cost of equity.

In addition to the infirmities witness Ahern identified in the application of witness Rothschild's recommended leverage formula, she also correctly notes that his recommendation on this issue would result in a constant revenue cost of capital over the 40 to 100 percent equity ratio range. We find that not only is this outcome inappropriate for the reasons outlined in witness Ahern's testimony and discussed above, this exact same argument was considered and rejected by us in Order No. 19718 when raised by witness Rothschild in the 1988 hearing on our WAW ROE leverage formula.[4]

Finally, while witness Rothschild does raise a valid concern regarding the impact a high equity ratio has on a company's cost capital, his argument is off point in the instant case. There are examples of utilities in other industries regulated by us that have the same ROE but have different equity ratios.[5] The companies with the higher equity ratios have higher costs of capital

[4] Order No. 19718, issued July 26, 1988, in Docket No. 880006-WS, In re: Establishment of Authorized Range of Return on Common Equity for water and sewer utilities Pursuant to Section 367.081(4)(f), Florida Statutes.

[5] Order No. PSC-0902-S-EI, issued September 14, 2005, in Docket No. 050045-EI, In re: Petition for rate increase by Florida Power & Light Company, Order No. PSC-05-0945-S-EI, issued September 28, 2005, in Docket No. 050078-EI, In re: Petition for rate increase by Progress Energy Florida, Inc., Order No. PSC-02-0787-FOF-EI, issued June 10, 2002, in Docket No. 010949-EI, In re: Request for rate increase by Gulf Power Company, and

by operation of math and these higher costs are recovered from their respective customers. However, the WAW ROE leverage formula specifically adjusts the cost of equity based on the financial leverage of the subject company. Therefore, the issue witness Rothschild raised about recovering the cost resulting from an inefficient capital structure from a utility's customers is unwarranted with respect to WAW utilities in Florida.

For the foregoing reasons, we find it appropriate that the determination of the leverage formula continue to be based on an after-tax cost of capital.

Bond Yield Differential Adjustment

OPC witness Rothschild testifies that when a utility issues a bond, the bond yield or interest expense the utility must pay on the bond is related to the risk bond investors perceive to be associated with the bond. He also states that, while numerous factors contribute to the determination of a bond rating, important factors such as the coverage ratio and internal cash generation are influenced by the capital structure, i.e. the degree of financial leverage used by a utility. Witness Rothschild believes that interest expense increases when a company increases the percentage of total debt financing in its capital structure. In addition, he argues that because of higher interest expense and fewer dollars of equity, both the income available to equity and the associated income taxes decrease. This leads witness Rothschild to believe that higher interest expense, lower income available to common shareholders, and lower income taxes all result in a lower coverage ratio. It is witness Rothschild's opinion that this increase in risk experienced by equity holders is the same risk measured by the leverage formula. Therefore, he concludes that adding a factor for the anticipated higher cost of debt is a double-count.

Witness Rothschild claims that when there is a lower amount of equity in the capital structure of the natural gas index, the bond rating of the company is lower. This leads him to believe that no additional bond yield differential should be made because increased risk from a higher proportion of debt in the capital structure is already reflected in the bond rating of the company.

UI witness Ahern testifies that it is appropriate to include a bond yield differential adjustment in the cost of common equity calculation in the leverage formula because the bond yield differential reflected in the debt cost rate only compensates bond holders for the increased riskiness inherent in Baa3 public utility bonds, relative to the riskiness inherent in A rated public utility bonds. She believes it is neither necessary nor appropriate to change the debt cost rate as common equity ratios change. Therefore, witness Ahern believes that there is no mechanism in the leverage formula to compensate common equity holders for their increased risk exposure for investing in the common equity of utilities with Baa3 rated bonds.

We find that it is appropriate to make a bond yield differential adjustment in the derivation of our WAW ROE leverage formula. The average bond rating for the natural gas index is A. The assumed bond rating for the average WAW utility in Florida is Baa3. By failing

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Order No. PSC-95-0580-AS-EI, issued May 10, 1995, in Docket No. 950379-EI, In re: Investigation into the earnings for 1995 and 1996 of Tampa Electric Company.

to appropriately recognize this incremental difference in risk between the companies in the natural gas index and the average WAW utility in Florida, witness Rothschild's recommended leverage formula produces results that understate the required return for these utilities. For these reasons, we find it appropriate to continue to make a bond yield differential adjustment as reflected in Attachment A to this Order.

Private Placement Premium Adjustment

OPC witness Rothschild testifies that there are a sufficient number of investors, such as retirement funds and life insurance companies, that plan to hold an investment to maturity and have no reason to expect a private placement premium. Witness Rothschild states that he attempted to find studies that evaluated the cost difference between private placement and public placement debt. The only study he said he was able to find was a working paper entitled "Financial Contracting and the Choice between Private Placement and Publicly Offered Bonds," dated November, 2004, by Simon H. Kwan of the Economic Research Department of the Federal Reserve Bank of San Francisco and Willard T. Carleton of the Department of Finance at the University of Arizona. The authors concluded:

> Finally, we find evidence that borrowers self-select their debt issuance choice to minimize financing costs. However, switchers that issue debt in both markets do not realize significant cost savings by issuing bonds in the private market.

Witness Rothschild believes this shows that the private placement alternative is selected when the borrower perceives an opportunity to experience a lower cost of debt rather than as a mechanism for higher cost.

UI witness Ahern testifies that it is appropriate to include a private placement premium in the cost of common equity calculation in the leverage formula because investors demand compensation for the lack of liquidity experienced with this type of debt relative to large, readily saleable publicly traded debt. She states that privately placed debt is typically held to maturity and does not, by definition, have a public market in which it is traded. This leads witness Ahern to believe that holders of privately placed debt require a higher return than holders of publicly held debt, and that this higher return premium must be reflected in the common equity cost rate.

We agree with witness Rothschild that companies that have access to both publicly and privately placed debt may not realize significant cost savings between the two forms of financing. However, witness Rothschild failed to demonstrate that the average Florida WAW utility is capable of accessing both public and private financing. Witness Rothschild, when asked whether he could identify any WAW utility under our jurisdiction that has issued equity through private placement, stated that he had not studied the issue. He also admitted that he did not specifically study the small WAW utilities in Florida to which the leverage formula is legislatively mandated to apply. In addition, we find that the average WAW utility in Florida does not have access to public financing. The fact that an average WAW utility in Florida cannot access public financing justifies the inclusion of a private placement premium adjustment to compensate for the lack of liquidity and the higher cost of financing of privately placed debt.

For these reasons, we find that that it is appropriate to continue to make a private placement premium adjustment of 50 basis points as reflected in Attachment A to this Order.

Small-Utility Risk Premium Adjustment

OPC witness Rothschild testifies that investors only demand compensation for the risk a company has in relation to the overall market. He believes the information from Ibbotson Associates 2008 Yearbook (SBBI) proves that small companies have provided higher returns since 1926, but these returns can be explained by higher betas of the companies. Witness Rothschild states the data indicates that if a small company has a lower beta it would also have a lower expected return, and this proves there is no reason for a small company to require a higher return due to its size.

Witness Rothschild testifies that risks typically faced by small firms would not be replicated for a regulated public utility. He believes an unregulated, small firm is more likely to have one or only a few key products that could be subject to obsolescence or vulnerable to attack from a larger, more powerful competitor. However, witness Rothschild also argues that regulated WAW utilities should not fear competition because they have the protection of territorial monopolies, and they have products with no chance of becoming obsolete. For these reasons, he believes there is no small company premium.

UI witness Ahern testifies that it is appropriate to include the small-utility risk premium in the cost of common equity calculation because size is a factor which affects business risk and must be reflected in the common equity cost rate in the leverage formula. She states that smaller companies are less capable of coping with significant events which affect sales, revenues, and earnings. Witness Ahern argues that the loss of revenues from a few large customers, for example, would have a greater effect on a small company than on a much larger company with a larger customer base. She states that the average WAW utility under our jurisdiction is a small, regulated utility. Witness Ahern believes the allowed overall costs of capital and fair rates of return applied to these companies must reflect the impact of their small size on the common equity cost rate. She testifies that size is an important factor which affects common equity cost rates and the Florida WAW utilities, including Utilities, Inc., on a consolidated basis. Witness Ahern states that these are significantly smaller companies than the average company in the natural gas index whose market data are utilized in the derivation of the WAW ROE leverage formula.

Witness Ahern testifies that a comparison of Florida WAW utilities to the natural gas index used in the leverage formula indicates a small size premium of 428 basis points or 4.28 percent. This premium is based upon data contained in Chapter 7 of SBBI entitled, "Firm Size and Return." Based on this analysis, witness Ahern believes the 50 basis point small utility risk premium currently included in our WAW ROE leverage formula is an extremely conservative estimate of the adjustment needed to reflect the business risk differential between Utilities, Inc., the average Florida WAW utility, and the natural gas index.

With respect to large, publicly traded companies with investment grade credit ratings, relative to small, publicly traded companies with investment grade credit ratings, we agree with witness Rothschild that it is not necessary to recognize a premium for the difference in size. However, with respect to large, publicly traded companies with investment grade credit ratings, relative to extremely small companies without access to the public debt or equity markets, we agree with witness Ahern that a small utility risk premium adjustment like the one included in our current WAW ROE leverage formula is appropriate and necessary. We agree with witness Ahern that the average WAW utility in Florida is significantly smaller than the average company in the natural gas index whose market data are utilized in the derivation of the WAW ROE leverage formula. As such, the loss of revenues from a few large customers would have a greater effect on a small company than on a much larger company with a larger customer base. For these reasons, we find that it is appropriate for us to continue to include a small utility risk premium of 50 basis points in the cost of common equity calculation in the leverage formula as reflected in Attachment A to this Order.

Whether the Leverage Formula Methodology Should be Updated

OPC witness Rothschild testifies that the existing leverage formula fails to consider that the cost of debt changes along with the cost of equity as capital structure changes. In addition, he believes the existing leverage formula does not recognize the real-world impact of income taxes as a critical part of capital structure selection. Finally, witness Rothschild believes the results of the DCF and CAPM analyses overstate the return on equity for WAW utilities in Florida.

Witness Rothschild states that for the leverage formula to be appropriate, it is critical for us to change the form of the leverage formula. Witness Rothschild recommends the following leverage formula be applied:

$$k = (OCC - D(1-ER))/ER$$

where

k = cost of equity

D = cost of debt, determined as a function of the percentage of equity in the capital structure

OCC = overall cost of capital

ER = equity ratio

Witness Rothschild notes that if a utility has characteristics that make it particularly different from the average Florida WAW utility, it may make the argument that the leverage formula should not apply to it.

UI witness Ahern testifies that the results of the current leverage formula are reasonable for establishing a return on common equity for WAW utilities in Florida. She concludes that, while witness Rothschild's argument that the cost of debt varies with leverage is theoretically valid, it is not necessary to make this change to our leverage formula methodology. Witness Ahern believes our assumption that the debt cost rate is constant over a common equity range of 40% to 100% is reasonable.

Witness Ahern testifies that witness Rothschild's recommendation to base the derivation of the WAW ROE leverage formula on the before-tax cost of capital would result in a constant revenue cost of capital and therefore is inappropriate. This same argument has been previously considered and rejected by us in Order No. 19718.

Witness Ahern testifies that witness Rothschild's DCF and CAPM analyses are flawed and result in returns that are inadequate for determining the required ROE for WAW utilities in Florida. She states that because of the numerous deficiencies in these analyses, his recommended changes to our WAW ROE leverage formula should be rejected.

The witnesses agree the concept of a leverage formula is a creative, innovative approach to streamline rate proceedings for Florida WAW utilities. Witness Ahern notes that approximately two-thirds of the WAW utilities in Florida reported annual revenues equal to or less than $200,000 in 2007. She argues that it would be cost prohibitive for each of these utilities to hire cost of capital experts for a rate case. Witness Ahern believes these utilities represent the average WAW utility in Florida to which the leverage formula is intended to apply.

Witness Ahern testifies that the results of the leverage formula proposed by our staff in its May 8, 2008 recommendation is reasonable. The results indicated by witness Rothschild's recommended leverage formula are much lower than the returns authorized for other regulated entities in Florida. Therefore, we find it inappropriate to accept witness Rothschild's proposed leverage formula.

Based on this analysis, as well as our analysis in previous issues, we find the following leverage formula methodology shall be applied:

Return on Common Equity = 7.36% + 2.123/Equity Ratio

Where the Equity Ratio = Common Equity / (Common Equity + Preferred Equity + Long-Term and Short-Term Debt)

Range: 9.48% @ 100% equity to 12.67% @ 40% equity

The Appropriate Range of Returns on Common Equity for Water and Wastewater Pursuant to Section 367.081 (4)(f), Florida Statutes

Two witnesses presented testimony in this proceeding regarding the appropriate range of returns on common equity for WAW utilities pursuant to Section 367.081(4)(f), F.S. OPC witness Rothschild recommends a number of changes to our current methodology for determining the range of returns on equity for WAW utilities. He determined ROE estimates based on the DCF model and the CAPM of 9.42%-9.43% and 9.37%, respectively. Witness Rothschild's recommended leverage formula results in a range of returns on equity of 6.52% at 100 percent equity and 10.53% at 40 percent equity.

UI witness Ahern testifies that the results of our staff's recommended leverage formula are reasonable for establishing the ROE for WAW utilities in Florida. Although she did not recommend an ROE for purposes of this proceeding, witness Ahern did perform an analysis that indicated ROE estimates of 11.47% based on the DCF model and 12.20% based on the CAPM. Based on her analysis, witness Ahern concludes that the results of the staff recommended WAW ROW leverage formula are reasonable if not conservatively low.

The statutory principles for determining the appropriate rate of return for a regulated utility are set forth by the U.S. Supreme Court in its Hope and Bluefield decisions.[6] These decisions define the fair and reasonable standards for determining rate of return for regulated enterprises. Namely, these decisions hold that the authorized return for a public utility should be commensurate with returns on investments in other companies of comparable risk, sufficient to maintain the financial integrity of the company, and sufficient to maintain its ability to attract capital under reasonable terms.

Each of witness Rothschild's recommended adjustments to our methodology for determining the WAW ROE leverage formula has been discussed in detail previously. Rather than repeat those arguments and the rebuttal testimony to each adjustment offered by witness Ahern, we will briefly summarize the primary defect in witness Rothschild's testimony and the basis for our finding in the instant issue.

While witness Rothschild correctly begins his analysis by applying generally accepted financial models to an index of regulated natural gas companies as a proxy for WAW utilities, his end result is compromised by his failure to recognize the significant difference in risk between the average company in the proxy group and the average WAW utility in Florida. It was repeatedly demonstrated that witness Rothschild lacks a thorough understanding of the WAW utilities under our jurisdiction that are the subject of this proceeding. The proxy group contains large companies that are all publicly traded, all have investment grade bond ratings, and all have annual revenue at or above $1 billion. In contrast, the group of WAW utilities under the our jurisdiction is comprised of numerous small companies. Of the 267 certificated WAW utilities under our jurisdiction, 176 or 66 percent have annual revenues less than $200 thousand. Of this same group, 247 or 88 percent have annual revenues less than $1 million. Witness

[6] Federal Power Commission v. Hope Natural Gas Company, 320 U.S. 591 (1944) and Bluefield Water Works & Improvement Company v. Public Service Commission of West Virginia, 262 U.S. 679 (1923).

Rothschild could not identify any WAW utility in Florida that has an investment grade bond rating. With the exception of Aqua America, witness Rothschild could not identify any WAW utility in Florida that has publicly traded equity. By basing his recommended leverage formula on the indicated ROE for a group of large, publicly traded natural gas companies without making any adjustment for the difference in risk between the proxy group and the average WAW utility in Florida, witness Rothschild's recommended range of returns significantly understates the required return on equity for the WAW companies under our jurisdiction.

The inadequacy of the indicated returns from witness Rothschild's recommended leverage formula is readily apparent when our recent decisions are considered. In Order No. PSC-08-0436-PAA-GU, we approved an authorized ROE of 11.0% for St. Joe Natural Gas Company.[7] If St. Joe's 60 percent equity ratio were plugged into witness Rothschild's recommended leverage formula, the indicated return would have been 8.46%. In contrast, our staff's recommended leverage formula indicates an ROE of 10.9% for a utility with an equity ratio of 60 percent. Our analyses above discuss in detail the deficiencies in witness Rothschild's approach to developing his recommended leverage formula that cause his recommended returns to be inadequate.

As noted earlier, both the Hope and Bluefield decisions require regulatory commissions to authorize returns that are fair, just, and reasonable. Witness Rothschild was unable to cite to any exceptions in either of these U.S. Supreme Court decisions that support his recommendation of a leverage formula that would result in authorized returns for WAW utilities that are systematically significantly less than authorized returns for other regulated companies operating in the same jurisdiction.

Based on our analysis of the cost of capital testimony presented in this case and our previous findings, we find it is appropriate to adopt the leverage formula specified above and presented in greater detail in Attachment A to this Order. We also find it is appropriate for us to cap returns on common equity at 12.67% for all WAW utilities with equity ratios less than 40 percent. We believe this will discourage imprudent financial risk. This cap is consistent with the methodology we approved in numerous previous orders regarding the WAW ROE leverage formula.

Based on the foregoing, it is

ORDERED by the Florida Public Service Commission that the Discounted Cash Flow Model and the Capital Asset Pricing Model shall be used in the leverage formula to estimate a fair and reasonable return on common equity capital for a water and wastewater utility. It is further

ORDERED that the leverage formula methodology shall take into account an individual utility's equity ratio in the determination of return on equity. It is further

[7] Order No. PSC-08-0436-PAA-GU, issued July 8, 2008, in Docket No. 070592-GU, In re: Petition for rate increase by St. Joe Natural Gas Company, Inc..

ORDERED that the leverage formula methodology shall not take into account the change to the cost of debt in response to changes in the level of common equity in a utility's capital structure. It is further

ORDERED that the determination of the leverage formula shall be based on an after-tax cost of capital. It is further

ORDERED that a bond yield differential adjustment shall be used in the leverage formula methodology as reflected in Attachment A to this Order. It is further

ORDERED that the private placement premium adjustment of 50 basis points shall be used in the leverage formula methodology as reflected in Attachment A to this Order. It is further

ORDERED that a small utility risk premium of 50 basis points in the cost of common equity calculation shall be used in the leverage formula methodology as reflected in Attachment A to this Order. It is further

ORDERED that the appropriate formula for measuring returns on common equity for water and wastewater utilities shall be as set forth in the body of this Order. It is further

ORDERED that returns on common equity shall be capped at 12.67% for all water and wastewater utilities with equity ratios less than 40 percent to discourage imprudent financial risk. It is further

ORDERED that all findings made in the body of this Order are hereby approved. It is further

ORDERED that all matters contained in Attachment A of this Order are incorporated herein by reference. It is further

ORDERED that this docket is a perpetual docket and shall not be closed until next year's docket is opened.

By ORDER of the Florida Public Service Commission this 31st day of December, 2008.

/s/ Ann Cole
ANN COLE
Commission Clerk

This is an electronic transmission. A copy of the original signature is available from the Commission's website, www.floridapsc.com, or by faxing a request to the Office of Commission Clerk at 1-850-413-7118.

(SEAL)

JEH

NOTICE OF FURTHER PROCEEDINGS OR JUDICIAL REVIEW

The Florida Public Service Commission is required by Section 120.569(1), Florida Statutes, to notify parties of any administrative hearing or judicial review of Commission orders that is available under Sections 120.57 or 120.68, Florida Statutes, as well as the procedures and time limits that apply. This notice should not be construed to mean all requests for an administrative hearing or judicial review will be granted or result in the relief sought.

Any party adversely affected by the Commission's final action in this matter may request: 1) reconsideration of the decision by filing a motion for reconsideration with the Office of Commission Clerk, 2540 Shumard Oak Boulevard, Tallahassee, Florida 32399-0850, within fifteen (15) days of the issuance of this order in the form prescribed by Rule 25-22.060, Florida Administrative Code; or 2) judicial review by the Florida Supreme Court in the case of an electric, gas or telephone utility or the First District Court of Appeal in the case of a water and/or wastewater utility by filing a notice of appeal with the Office of Commission Clerk, and filing a copy of the notice of appeal and the filing fee with the appropriate court. This filing must be completed within thirty (30) days after the issuance of this order, pursuant to Rule 9.110, Florida Rules of Appellate Procedure. The notice of appeal must be in the form specified in Rule 9.900(a), Florida Rules of Appellate Procedure.

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Water and wastewater industry annual reestablishment of authorized range of return on common equity for water and wastewater utilities pursuant to Section 367.081(4)(f), F.S.	DOCKET NO. 090006-WS ORDER NO. PSC-09-0430-PAA-WS ISSUED: June 19, 2009

The following Commissioners participated in the disposition of this matter:

MATTHEW M. CARTER II, Chairman
LISA POLAK EDGAR
KATRINA J. McMURRIAN
NANCY ARGENZIANO
NATHAN A. SKOP

NOTICE OF PROPOSED AGENCY ACTION ORDER
ESTABLISHING AUTHORIZED RANGE OF RETURNS ON COMMON EQUITY
FOR WATER AND WASTEWATER UTILITIES

BY THE COMMISSION:

NOTICE is hereby given by the Florida Public Service Commission that the action discussed herein is preliminary in nature and will become final unless a person whose interests are substantially affected files a petition for a formal proceeding, pursuant to Rule 25-22.029, Florida Administrative Code.

Background

Section 367.081(4)(f), Florida Statutes (F.S.), authorizes us to establish, not less than once each year, a leverage formula to calculate a reasonable range of returns on equity (ROE) for water and wastewater (WAW) utilities. At the May 20, 2008, Agenda Conference, after hearing from Commission staff and from counsel of the Office of Public Counsel (OPC) and Utilities, Inc. (UI), we decided that it would be appropriate and administratively efficient to set the establishment of the 2008 leverage formula for WAW utilities directly for hearing. The formal hearing was held on October 23, 2008. OPC and UI sponsored witnesses and participated at the hearing. Based on the record from this proceeding, we approved the leverage formula currently in effect in Order No. PSC-08-0846-FOF-WS, issued December 31, 2008. In that order, we reaffirmed the methodology that was previously approved in Order No. PSC-01-2514-FOF-WS, issued December 24, 2001, in Docket No. 010006-WS.

Although Subsection 367.081(4)(f), F.S., authorizes us to establish a range of returns for setting the authorized ROE for WAW utilities, we retain the discretion to set an ROE for WAW utilities based on record evidence in any proceeding. If one or more parties file testimony in

opposition to the use of the leverage formula, we will determine the appropriate ROE based on the evidentiary record in that proceeding; For example, in the recent case involving Aqua Utilities Florida (AUF), we determined that the record supported an authorized ROE for AUF different from the return indicated by its leverage formula.[1]

This Order utilizes the current leverage formula methodology established in Order No. PSC-08-0846-FOF-WS. This methodology uses returns on equity from financial models applied to an index of natural gas utilities. Based on the results of our annual review, there is an insufficient number of WAW utilities that meet the requisite criteria to assemble an appropriate proxy group. Therefore, we have used natural gas utilities as the proxy companies for the leverage formula since 2001. There are many natural gas utilities that have actively traded stocks and forecasted financial data. We used natural gas utilities that derive at least 50 percent of their revenue from regulated rates. These utilities have market power and are influenced significantly by economic regulation. As explained in the body of this Order, the model results based on natural gas utilities are adjusted to reflect the risks faced by Florida WAW utilities.

We have jurisdiction pursuant to Section 367.081, F.S.

Decision

The current leverage formula methodology was applied using updated financial data, and is calculated as follows:

Return on Common Equity = 8.58% + 1.087/Equity Ratio

Where the Equity Ratio = Common Equity / (Common Equity + Preferred Equity + Long-Term and Short-Term Debt)

Range: 9.67% @ 100% equity to 11.30% @ 40% equity

Section 367.081(4)(f), F.S., authorizes us to establish a leverage formula to calculate a reasonable range of returns on equity for WAW utilities. We must establish this leverage formula not less than once a year.

We note that the leverage formula depends on four basic assumptions:

1) Business risk is similar for all WAW utilities;

2) The cost of equity is an exponential function of the equity ratio;

3) The marginal weighted average cost of investor capital is constant over the equity ratio range of 40 percent to 100 percent; and,

[1] See Order No. PSC-09-0385-FOF-WS, issued May 29, 2009, in Docket No. 080121-WS, In re: Application for increase in water and wastewater rates in Alachua, Brevard, DeSoto, Highlands, Lake, Lee, Marion, Orange, Palm Beach, Pasco, Polk, Putnam, Seminole, Sumter, Volusia, and Washington Counties by Aqua Utilities Florida, Inc.

4) The debt cost rate at an assumed Moody's Baa3 bond rating, plus a 50 basis point private placement premium and a 50 basis point small utility risk premium, represents the average marginal cost of debt to a Florida WAW utility over an equity ratio range of 40 percent to 100 percent.

For these reasons, the leverage formula is assumed to be appropriate for the average Florida WAW utility.

The leverage formula relies on two ROE models. We adjusted the results of these models to reflect differences in risk and debt cost between the index of companies used in the models and the average Florida WAW utility. Both models include a four percent adjustment for flotation costs. The models are as follows:

- A Discounted Cash Flow (DCF) model applied to an index of natural gas utilities (NG) that have publicly traded stock and are followed by the Value Line Investment Survey (Value Line). This DCF model is an annual model and uses prospective growth rates. The index consists of 9 companies that derive at least 50 percent of their total revenue from gas distribution service. These companies have a median Standard and Poor's bond rating of A.

- A Capital Asset Pricing Model (CAPM) using a market return for companies followed by Value Line, the average yield on the Treasury's long-term bonds projected by the Blue Chip Financial Forecasts, and the average beta for the index of NG utilities. The market return for the 2009 leverage formula was calculated using a quarterly DCF model.

We averaged the indicated returns of the above models and adjusted the result as follows:

- A bond yield differential of 44 basis points is added to reflect the difference in yields between an A/A2 rated bond, which is the median bond rating for the NG utility index, and a BBB-/Baa3 rated bond. Florida WAW utilities are assumed to be comparable to companies with the lowest investment grade bond rating, which is Baa3. This adjustment compensates for the difference between the credit quality of "A" rated debt and the credit quality of the minimum investment grade rating.

- A private placement premium of 50 basis points is added to reflect the difference in yields on publicly traded debt and privately placed debt, which is illiquid. Investors require a premium for the lack of liquidity of privately placed debt.

- A small utility risk premium of 50 basis points is added because the average Florida WAW utility is too small to qualify for privately placed debt.

After the above adjustments, the resulting cost of equity estimate is included in the average capital structure for the NG utilities. The cost of equity is determined at a 40 percent equity ratio and the leverage formula is derived. The derivation of the approved leverage formula using the current methodology with updated financial data is presented in Attachment 1.

For administrative efficiency, the leverage formula is derived to determine the appropriate return for an average Florida WAW utility. Traditionally, we have applied the same leverage formula to all WAW utilities. As is the case with other regulated companies under the our jurisdiction, we have discretion in the determination of the appropriate ROE based on the evidentiary record in any proceeding. If one or more parties file testimony in opposition to the use of the leverage formula, we will determine the appropriate ROE based on the evidentiary record in that proceeding.

We find it appropriate to cap returns on common equity at 11.30 percent for all water and wastewater utilities with equity ratios less than 40 percent. We find that this will discourage imprudent financial risk. This cap is consistent with the methodology we approved in Order No. PSC-08-0846-FOF-WS.

Based on the foregoing, it is

ORDERED by the Florida Public Service Commission that the leverage formula methodology, summarized herein and in Attachment 1, used to calculate a range of returns on common equity for water and wastewater utilities, is hereby approved. It is further

ORDERED that Attachment 1 is incorporated herein by reference. It is further

ORDERED that returns on common equity are hereby capped at 11.30 percent for all water and wastewater utilities with equity ratios of less than 40 percent in order to discourage imprudent financial risk. It is further

ORDERED that the provisions of this Order, issued as proposed agency action, shall become final and effective upon the issuance of a Consummating Order unless an appropriate petition, in the form provided by Rule 28-106.201, Florida Administrative Code, is received by the Commission Clerk, 2540 Shumard Oak Boulevard, Tallahassee, Florida 32399-0850, by the close of business on the date set forth in the "Notice of Further Proceedings" attached hereto. It is further

ORDERED that in the event this Order becomes final, this docket shall remain open to allow our staff to monitor changes in capital market conditions and to readdress the reasonableness of the leverage formula as conditions warrant.

By ORDER of the Florida Public Service Commission this 19th day of June, 2009.

ANN COLE
Commission Clerk

(SEAL)

JEH

NOTICE OF FURTHER PROCEEDINGS OR JUDICIAL REVIEW

The Florida Public Service Commission is required by Section 120.569(1), Florida Statutes, to notify parties of any administrative hearing that is available under Section 120.57, Florida Statutes, as well as the procedures and time limits that apply. This notice should not be construed to mean all requests for an administrative hearing will be granted or result in the relief sought.

Mediation may be available on a case-by-case basis. If mediation is conducted, it does not affect a substantially interested person's right to a hearing.

The action proposed herein is preliminary in nature. Any person whose substantial interests are affected by the action proposed by this order may file a petition for a formal proceeding, in the form provided by Rule 28-106.201, Florida Administrative Code. This petition must be received by the Office of Commission Clerk, 2540 Shumard Oak Boulevard, Tallahassee, Florida 32399-0850, by the close of business on July 10, 2009.

In the absence of such a petition, this order shall become final and effective upon the issuance of a Consummating Order.

Any objection or protest filed in this/these docket(s) before the issuance date of this order is considered abandoned unless it satisfies the foregoing conditions and is renewed within the specified protest period.

Attachment 1

SUMMARY OF RESULTS

Leverage Formula Update

	Approved 2009 Results	2008 Results
(A) DCF ROE for Natural Gas Index	9.87%	9.68%
(B) CAPM ROE for Natural Gas Index	9.28%	11.40%
AVERAGE	9.58%	10.54%
Bond Yield Differential	0.44%	0.39%
Private Placement Premium	0.50%	0.50%
Small-Utility Risk Premium	0.50%	0.50%
Adjustment to Reflect Required Equity Return at a 40% Equity Ratio	0.28%	0.73%
Cost of Equity for Average Florida WAW Utility at a 40% Equity Ratio	11.30%	12.67%

2008 Leverage Formula

Return on Common Equity = 7.36% + 2.123/ER

Range of Returns on Equity = 9.48% - 12.67%

2009 Leverage Formula (Approved)

Return on Common Equity = 8.58% + 1.087/ER

Range of Returns on Equity = 9.67% - 11.30%

Marginal Cost of Investor Capital
Average Water and Wastewater Utility

Capital Component	Ratio	Marginal Cost Rate	Weighted Marginal Cost Rate
Common Equity	44.61%	11.02%	4.91%
Total Debt	55.39%	8.58% *	4.75%
	100.00%		9.67%

A 40% equity ratio is the floor for calculating the required return on common equity. The return on equity at a 40% equity ratio is 8.58% + 1.087/.40 = 11.30%

Marginal Cost of Investor Capital
Average Water & Wastewater Utility at 40% Equity Ratio

Capital Component	Ratio	Marginal Cost Rate	Weighted Marginal Cost Rate
Common Equity	40.00%	11.30%	4.52%
Total Debt	60.00%	8.58% *	5.15%
	100.00%		9.67%

Where: ER = Equity Ratio = Common Equity/(Common Equity + Preferred Equity + Long-Term Debt + Short-Term Debt)

* Assumed Baa3 rate for March 2009 plus a 50 basis point private placement premium and a 50 basis point small utility risk premium.

Sources: Moody's Credit Perspectives and Value Line Selection and Opinion

ANNUAL DISCOUNTED CASH FLOW MODEL

INDEX NATURAL GAS INDEX

VALUE LINE ISSUE: Ed. 3, March 13, 2009

COMPANY	DIV0	DIV1	DIV2	DIV3	DIV4	EPS4	ROE4	GR1-4	GR4+	MARCH HI-PR	MARCH LO-PR	MARCH AVER-PR
AGL RESOURCES INC.	1.72	1.76	1.80	1.84	1.88	3.20	14.50	1.0222	1.0598	27.97	24.02	25.995
ATMOS ENERGY CORPORATION	1.32	1.34	1.36	1.38	1.40	2.50	9.50	1.0147	1.0418	23.94	20.07	22.005
LACLEDE GROUP, INC.	1.53	1.57	1.61	1.66	1.70	3.00	11.00	1.0269	1.0477	41.00	35.23	38.115
NICOR INC.	1.86	1.86	1.86	1.86	1.86	3.30	12.00	1.0000	1.0524	34.46	27.50	30.980
NORTHWEST NATURAL GAS CO.	1.58	1.66	1.77	1.88	2.00	3.45	11.00	1.0641	1.0462	45.19	37.71	41.450
PIEDMONT NATURAL GAS CO., INC.	1.05	1.10	1.15	1.20	1.25	2.15	13.50	1.0435	1.0565	26.74	20.68	23.710
SOUTH JERSEY INDUSTRIES, INC.	1.20	1.28	1.35	1.42	1.50	3.10	14.50	1.0543	1.0748	35.93	31.98	33.955
SOUTHWEST GAS CORPORATION	0.95	1.00	1.05	1.10	1.15	2.30	9.00	1.0477	1.0450	22.28	17.08	19.680
WGL HOLDINGS, INC.	1.45	1.50	1.53	1.57	1.60	2.75	11.00	1.0217	1.0460	34.32	28.89	31.605
AVERAGE	1.4067	1.4522	1.4972	1.5442 1.6766	1.5933	2.8611	11.7778	1.0328	1.0522			29.722

S&P STOCK GUIDE: APRIL 2009 with MARCH Stock Prices

Stock Price w/four Percent Flotation Costs	$28.53	Annual	9.87%	ROE	
Cash Flows	1.2906	1.2123	1.1376	1.0680	1.0080	22.8162
Present Value of Cash Flows	28.5328					

NOTE: The cash flows for this multi-stage DCF Model are derived using the average forecasted dividends and the near term and long term growth rates. The discount rate, *9.87%*, equates the *cash flows with the average* stock price less flotation cost.

= March 2009 average stock price with a 4% flotation cost.

= Cost of equity required to match the current stock price with the expected cash flows.

Sources:
1. Stock Prices - S&P Stock Guide, April 2009 Edition.
2. DPS, EPS, ROE - Value Line Edition 3, March 13, 2009.

Capital Asset Pricing Model Cost of Equity for
Water and Wastewater Industry

CAPM analysis formula

K	=	RF + Beta(MR - RF)
K	=	Investor's required rate of return
RF	=	Risk-free rate (Blue Chip forecast for Long-term Treasury bond, April 1, 2009)
Beta	=	Measure of industry-specific risk (Average for water utilities followed by Value Line)
MR	=	Market return (Value Line Investment Survey For Windows, April 2009)
9.28%	=	3.92% + 0.67(11.66% - 3.92%) + 0.20%

Note: We calculated the market return using a quarterly DCF model for a large number of dividend paying stocks followed by Value Line. For March 2009, the result was 11.66%. We also added 20 basis points to the CAPM result to allow for a four-percent flotation cost.

BOND YIELD DIFFERENTIALS									
Public Utility Long Term Bond Yield Averages									
120 Month Average Spread		0.1098		0.1098		0.1098		0.1098	
MONTH/YEAR	A2	SPREAD	A3	SPREAD	Baa1	SPREAD	Baa2	SPREAD	Baa3
Mar-09	6.04	0.48	6.52	0.48	6.99	0.48	7.47	0.48	7.95
Sources: Moody's Credit Perspectives and Value Line Selection and Opinion									

INDEX STATISTICS AND FACTS

Natural Gas Distribution Proxy Group	S & P Bond Rating	% of Gas Revenue	V/L Market Capital ($ millions)	Equity Ratio	Value Line Beta
AGL Resources Inc.	A-	56%	$ 2,050.56	39.40%	0.75
Atmos Energy Corporation	BBB+	52%	$ 2,114.11	45.58%	0.60
Laclede Group, Inc.	A	50%	$ 828.07	43.77%	0.65
NICOR Inc.	AA	84%	$ 1,481.13	44.00%	0.75
Northwest Natural Gas Co.	AA-	98%	$ 1,129.21	45.26%	0.60
Piedmont Natural Gas Co., Inc.	A	75%	$ 1,889.70	42.82%	0.65
South Jersey Industries, Inc.	A	59%	$ 1,033.60	47.46%	0.65
Southwest Gas Corporation	BBB-	83%	$ 942.43	43.49%	0.70
WGL Holdings, Inc.	AA-	59%	$ 1,570.98	49.72%	0.65
Average:				44.61%	0.67
Sources:					

Value Line Investment Survey for Windows, April 2009
S.E.C. Forms 10Q and 10K for Companies
AUS Utility Report, March 2009

EXHIBIT GCH-3

GERALD C. HARTMAN, P.E., BCEE, ASA

RESUMÉ

Gerald C. Hartman, P.E., B.C.E.E., A.S.A.

Vice President

Education

B.S. Duke University, 1975
M.S. Duke University, 1976

Registrations/Certifications

Alabama	No. 19422	Louisiana	No. 30816	North Carolina	No. 15264
Arizona	No. 28939	Maine	No. 10395	Ohio	No. 70152
Colorado	No. 31200	Maryland	No. 12410	Pennsylvania	No. 38216
Florida	No. 27703	Mississippi	No. 12717	South Carolina	No. 15389
Georgia	No. 17597	Nebraska	No. E-12868	Tennessee	No. 105550
Illinois	No. 062-053100	Nevada	No. 20259	Virginia	No. 131184
Indiana	No. 10100292	New Hampshire	No. 10820		
Kentucky	No. 22463	New Mexico	No. 15990		

NCEES National P.E. No. 20481
American Society of Appraisers Accredited Senior Appraiser No. 7542

Relevant Training/Courses

AWRA, AWWA, ASCE, WEF, ASA Seminars
Ethics ASA, NSPE, PE
USPAP 2003, 2004 2009/2010 Exams
ME 201, ME 202, ME 203, ME 204 Machinery & Technical Specialties ASA
Public Utilities Specialty Designation Exam Parts I, II, and III ASA
AAEE, ASA, NSPE, PE (multiple states) Continuing Education

Affiliations

Diplomate – American Academy of Environmental Engineers
American Concrete Institute
American Society of Appraisers
American Society of Civil Engineers
American Water Resources Association
American Water Works Association
Florida Engineering Society
Florida Water & Pollution Control Operators Association
Florida Water Works Association
National Society of Professional Engineers
Water and Environment Federation
Water Management Institute

Summary

Mr. Hartman is an experienced environmental engineer specializing in water, wastewater and stormwater utilities and systems. He is a qualified expert witness in the areas of water resources, water supply and treatment, wastewater treatment and effluent disposal, reclaimed water reuse, stormwater reuse, utility system valuation and financing, facility siting, certification/service area/franchises and formation/creation, management and acquisition projects. Mr. Hartman is accepted in various Federal Courts, Circuit Courts, Division of Administrative Hearings, Public Service Commissions, arbitration, and quasi-judicial hearings conducted by cities and counties, as a

technical expert witness in the areas of water supply, certification/service area/franchises, facility planning, water resources, water treatment, water quality engineering, water system design and construction, and utility systems valuation.

Professional Experience

Financial Reports

Mr. Hartman has been involved in over 300 capital charge, impact fee and installation charge studies involving water, wastewater and fire service for various entities. He also has participated in over 150 user rate adjustment reports. Mr. Hartman assisted in the development of over 70 revenue bond issues, 20 short-term bank loan systems, 10 general obligation bonds, numerous grant/loan programs, numerous capacity sale programs, and 20 privatization programs. Mr. Hartman has been involved in over $3 billion in utility bond and commercial loan financings for water and wastewater utility, and over $4 billion in utility grants, matching funding, cost-sharing; SRF loans and Federal Loans (R.D., etc.), assessments and CIAC programs.

Water and Wastewater Acquisition Valuations and Evaluations

Mr. Hartman has been involved in some 300 water and wastewater negotiations, valuations and evaluations, and has been a qualified expert witness by the courts with regard to water, wastewater, reuse, arbitrations and condemnation cases. He has participated in the valuation of numerous utility systems. His experience in the past few years includes:

Year	Project	Party Represented
2010	River Forrest, S.C.	Both
2010	Stonecreek, S.C.	Both
2010	Fearington Utilities	NFP
2010	Wahneta Water System	City
2010	Heritage Harbor Water and Wastewater	City
2009	Bay Laurel Water and Wastewater	CDD
2009	Aquarina Water and Wastewater	Bank
2009	Cocoa Beach (electric)	City
2009	Parkland Utilities	Owner
2009	GISTRO (Rev.)	NFP
2009	Fruitland Park (electric)	City
2008	Park Water Company	City
2008	Crooked Lake Sewerage Company	City
2008	Vanguard Wastewater System	City
2008	Traxler Enterprises	City
2008	Louisiana Land and Water Company	Owner
2008	Sandy Creek Water and Wastewater	County
2008	Bayside Water and Wastewater	County
2008	Fern Crest Utilities, Inc.	Buyer
2008	Turnpike Utilities, LLC – W/S North Carolina	Owner
2008	Nags Head, Moneray Shores, Currituck Sewer, Corollo #1 & #2	Buyer
2008	Service Management Systems, Inc.	Bank
2008	Slash Creek Utility System	Owner
2008	Kill Devil Hills Utility Company	Owner
2008	Orchid Springs Utilities	City
2008	City of North Miami Beach – Utilities	Owner
2007	Pine Island Water System	Owner
2007	Pine Island Currituck Sewer	Owner
2007	Gulf Coast Electric Cooperative	County
2007	Marion Utilities, Sunshine Utilities and Windstream Utilities	County
2007	Ocean Reef/NKLUA/Card Sound I.Q.	FKAA
2007	Irish Acres	County
2007	I-20 Systems South Carolina	Owner

Year	Project	Party Represented
2007	Town & Country Update	Owner
2007	Service Management Systems, Inc.	C.B. Ellis
2007	Bulow Village Resort	County
2007	Intercoastal Utilities	Owner
2006	Donaldsonville/Peoples Utilities	Owner
2006	MSM Utilities, Inc.	Owner
2006	BSU/Citrus Park	Owner
2006	Jasmine Lakes and Palm Terrace	City
2006	The Arbors	County
2006	Oak Centre	County
2006	Silver Oaks Estates	County
2006	Regal Woods	County
2006	Golden Glen	County
2006	Willow Oaks	County
2006	South Oak	County
2006	Gulf State Community Bank – Utility Holdings	Bank
2006	Rolling Green	County
2006	South 40, Citrus Park and Raven Hill	County
2006	Holiday Utility Company, Inc.	Bank
2006	Old Bahama Bay	Management
2006	Utility Consolidation Program	County
2006	Loch Harbor Water & Wastewater System	Owner
2005	Lake Wales Utility Company	Bank
2005	Pennichuck Water Company	Confidential
2005	K.W. Resort Utilities, Inc.	Confidential
2005	Water Management Services, Inc.	Owner
2005	Town and Country Utility Co.	Confidential
2005	Village of Royal Palm Beach	Village
2005	Orange/Osceola/Lake/Seminole Counties	Confidential
2005	Utilities, Inc. (Partial)	Owner
2005	Village of Royal Palm Beach	Village
2005	Bald Head Island Utilities, Inc.	Village
2005	Broward County	Confidential
2005	Burkim Enterprises, Inc.	Owner
2005	Lyman Utilities, Inc. Harrison County, MS	Owner
2004	Quail Meadow Utility Company	County
2004	Silver Springs Shores Regional	County
2004	Matanzas Shores	County
2004	El Dorado Utilities, NM	Owner
2004	CDF to City of Tupelo, MS	CDF
2004	Pesotum, Illinois – IAWC	Village
2004	Philo, Illinois – IAWC	Village
2004	Central Florida	Confidential
2004	Skyview	City
2004	Polk Utilities	NFP
2004	St. Johns Services Company	County
2004	Intercoastal Utilities Company	County
2004	Stonecrest Utilities	County
2004	Meredith Manor	County
2004	Lake Harriet Estates	County
2004	Lake Brantley	County
2004	Fern Park	County
2004	Druid Hills	County
2004	Dol Ray Manor	County

Year	Project	Party Represented
2004	Apple Valley	County
2004	Kingsway Utility Area	County
2004	Lake Suzy Utilities (water portion)	County
2004	Sanibel Bayous Wastewater Corporation	City
2004	Ocean City Utilities	FCURIA/County
2004	Peoples Water of Donaldsonville, LA	Owner
2003	Harmony Homes	County
2003	Florida Central Commerce Park	County
2003	Chuluota	County
2003	District 3C (Miramar portion)	City
2003	Lincoln Utilities/Indiana Water Service	Owner
2003	Gibsonia Estates	City
2003	Lake Gibson Estates	City
2003	El Dorado Utilities, NM	Buyer
2003	Jungle Den Utilities	Association
2003	Holiday Haven Utilities	Association
2003	Salt Springs	County
2003	Smyrna Villas	County
2003	South Forty	County
2003	Citrus Park	County
2003	Spruce Creek South	County
2003	Spruce Creek	County
2003	Spruce Creek Country Club Estates	County
2003	Longwood Franchise (electric)	City
2003	Casselberry Franchise (electric)	City
2003	Apopka Franchise (electric)	City
2003	Winter Park Acquisition (electric)	City
2003	Stonecrest/Steeplechase	County
2003	Marion Oaks	County
2003	Kingswood Utilities	County
2003	Oakwood Utilities	County
2003	Sunny Hills Utilities	Confidential
2003	Interlachen Lake/Park Manor	Confidential
2003	Tomoka/Twin Rivers	Confidential
2003	Beacon Hills	Buyer
2003	Woodmere	Buyer
2003	Bay Lake Estates	City
2003	Fountains	City
2003	Intercession City	City
2003	Lake Ajay Estates	City
2003	Pine Ridge Estates	City
2003	Tropical Park	City
2003	Windsong	City
2003	Buenaventura Lakes	City
2002	Lelani Heights Utilities	County
2002	Fisherman Haven Utilities	County
2002	Fox Run Utilities, Inc.	County
2002	Ponce Inlet	City
2002	Amelia Island Utilities	City
2002	Florida Public Utilities	City
2002	AquaSource – LSU	County
2002	Park Place Utility Company, GA	Owner
2002	Kingsway Utility System	Owner/County
2002	Pennichuck Water Company, NH	City

Year	Project	Party Represented
2002	Philo Water System, IL	Village
2002	Pasco County – 2 systems	County
2002	Marion Consolidation – 10 systems	County
2002	Sugarmill	UCCNSB
2002	Deltona	FCURIA
2002	Palm Coast	FCURIA
2002	Bald Head Island Utilities, NC	Village
2002	White's Creek – Lincolnshire, SC	Owner
2002	Bluebird Utilities, Tupelo, MS	NFP
2001-2	Due Diligence – 260 systems (VA, NC, SC)	Buyer
2001	Shady Oaks	County
2001	Davie/Sunrise	City
2001	Lindale Utilities	County
2001	Aquarina	Owner
2001	Intercoastal Utilities	County
2001	Beverly Beach	City
2001	Citrus County Utility Consolidation Plan (numerous)	County
2001	Pasco County Utility Acquisition Plan (numerous)	County
2001	Skylake Utilities	City
2001	Town of Lauderdale-By-The-Sea	Town
2001	John Knox Village	City
2001	Silver Springs Regional	County
2001	DeSoto Countywide FWSC Franchise and Assets	County
2001	Zellwood Station Co-Op	Co-Op
2001	Palm Cay	County
2000	The Great Outdoors	Owner
2000	Destin Water Users	City
2000	Pine Run	County
2000	Oak Run	County
2000	Dundee Wastewater (partial)	City
2000	Polk City Water	City
2000	A.P. Utilities (2 systems)	County
2000	CGD Utilities	Bank
2000	Boynton Beach (partial)	City
2000	Aqua-Lake Gibson Utilities	City
2000	Bartelt Enterprises, Ltd. (2 systems)	Owner
2000	49 'Ner Water System, Tucson, AZ	Owner
2000	Stock Island Wastewater and Reuse System	Owner
1999	Del Webb (3 systems)	County
1999	Destin Water Users Co-Op	City
1999	O&S Water Company	City
1999	Rolling Springs Water Company	County
1999	ORCA Water & Solid Waste	Authority
1999	Marianna Shores Water and Wastewater	City
1999	Mount Olive Utilities	City
1999	AP Utilities (3 systems)	County
1999	Tangerine Water Association	City
1999	Laniger Enterprises Water & Wastewater	Bank
1999	IRI golf Water System, AZ	Investor
1999	South Lake Utilities	City
1999	St. Lucie West CDD	City
1999	Polk City/Lakeland	City
1999	Dobo System, Hanover County, NC	County
1999	Rampart Utilities	County

Year	Project	Party Represented
1999	Garlits to Marion County	County
1998	Golf and Lake Estates	City
1998	Sanibel Bayous/E.P.C.	City
1998	Tega Cay Utility Company, SC	City
1998	Marlboro Meadows, MD	Owner
1998	Sugarmill Water and Wastewater/Volusia County	UCCNSB
1998	SunStates Utilities, Inc.	Owner
1998	Town of Hope Mills/FPWC, NC	Town
1998	River Hills, SC	County
1998	Town of Palm Beach	Town
1998	K.W. Utilities, Inc.	Buyer
1998	Orange Grove Utility Company, MS	Owner
1998	Garden Grove Water Company	City
1998	Sanlando Utilities, Inc.	County
1997	Golden Ocala Water and Wastewater System	County
1997	Holiday Heights, Daetwyller Shores, Conway, Westmont	County
1997	University Shores	County
1997	Sunshine Utilities	County
1997	Bradfield Farms Utility, NC	Owner
1997	Palmetto Utility Corporation	Owner
1997	A.P. Utilities	County
1997	Village of Royal Palm Beach	Village
1997	Jasmine Lake Utilities Corporation	Lender
1997	Arizona (confidential)	Owner
1997	Village Water Ltd., FL	Owner
1997	N.C. System – CMUD (3 systems)	Owner
1997	Courtyards of Broward	City
1997	Miami Springs	City
1997	Widefield Homes Water Company, CO	Company
1997	Peoples Water System	ECUA
1997	Quail Meadows, GA	County
1997	Rolling Green, GA	County
1996	Keystone Heights	City
1996	Buchannan	Owner
1996	Keystone Club Estates	City
1996	Lakeview Villas	City
1996	Geneva Lakes	City
1996	Postmaster Village	City
1996	Landen Sewer System, CMUD, NC	Company
1996	Citizens Utilities, AZ	City
1996	Widefield Water and Sanitation, CO	District
1996	Consolidation Program Game Plan	County
1996	Marion Oaks	County
1996	Marco Shores	Company
1996	Marco Island	Company
1996	Cayuga Water System, GA	Authority
1996	Glendale Water System, GA	Authority
1996	Lehigh Acres Water and Wastewater, GA	Authority
1996	Lindrick Services Company	Company
1996	Carolina Blythe Utility, NC	City
1996	Ocean Reef R.O. WTPs	NKLUA
1995	Sanibel Bayous	City
1995	Rotunda West Utilities	Investor
1995	Palm Coast Utility Corporation	ITT

Year	Project	Party Represented
1995	Sunshine State Parkway	Company
1995	Orange Grove Utilities, Inc., Gulfport, MS	Company
1995	Georgia Utilities, Peachtree, GA	City
1995	Beacon Hills Utilities	Company
1995	Woodmere Utilities	Company
1995	Springhill Utilities	Company
1995	Okeechobee Utility Authority	OUA
1995	Okeechobee Beach Water Association	OUA
1995	City of Okeechobee	OUA
1995	Mad Hatter Utilities, Inc.	Company
1994	Eastern Regional Water Treatment Plant	Owner
1994	GDU – Port St. Lucie Water and Wastewater	City
1994	St. Lucie County Utilities	City
1994	Marco Island/Marco Shores	Sun Bank
1994	Heater of Seabrook, SC	Company
1994	Placid Lake Utilities, Inc.	Company
1994	Ocean Reef Club Solid Waste System	ORCA
1994	Ocean Reef Club Wastewater System	ORCA
1994	South Bay Utilities, Inc.	Company
1994	Kensington Park Utilities, Inc.	Company
1993	River Park Water System	SSU/Allete
1993	Taylor Woodrow, Sarasota County	Taylor Woodrow
1993	Atlantic Utilities, Sarasota County	Company
1993	Alafaya Utilities, Inc.	Bank
1993	Anden Group Wastewater System, PA	Company
1993	West Charlotte Utilities, Inc.	District
1993	Rolling Oaks (SW)	Owner
1993	Sanlando Utilities, Inc.	Investor
1993	Venice Gardens Utilities	Company
1992	Myakka Utilities, Inc.	City
1992	Kingsley Service Company	County
1992	Mid Clay Utilities, Inc.	County
1992	Clay Utilities, Inc.	County
1992	RUD#1 (4 systems review)	Meadowoods/Kensington Park
1992	Uddo Landfill (SW)	Owner
1992	Martin Downs Utilities, Inc.	County
1992	Fox Run Utility System	County
1992	Leilani Heights	County
1992	River Park Water and Sewer	SSU/Allete
1992	Central Florida Research Park	Bank of America
1992	Rolling Oaks Utility	Investor
1992	City of Palm Bay Utilities	PBUC
1992	North Port – GDU Water and Sewer	City
1992	Palm Bay – GDU Water and Sewer	City
1992	Sebastian – GDU Water and Sewer	City
1991	Sanibel – Sanibel Sewer System, Ltd.	City
1991	St. Augustine Shores, St. Johns County	SSU/Allete
1991	Remington Forest, St. Johns County	SSU/Allete
1991	Palm Valley, St. Johns County	SSU/Allete
1991	Valrico Hills, Hillsborough County	SSU/Allete
1991	Hershel Heights, Hillsborough County	SSU/Allete
1991	Seaboard Utilities, Hillsborough County	UFUC
1991	Federal Bankruptcy – Lehigh Acres	Topeka/Allete
1991	Meadowoods Utilities, Regional Utility District #1	Investor

Year	Project	Party Represented
1991	Kensington Park Utilities, Regional Utility District #1	Investor
1991	Industrial Park, Orange City	City
1991	Country Village, Orange City	City
1991	John Know Village, Orange City	City
1991	Land O'Lakes, Orange City	City
1990	Orange-Osceola Utilities, Osceola County	County
1990	Morningside East and West, Osceola County	County
1990	Magnolia Valley Services, Inc., New Port Richey	City
1990	West Lakeland Industrial, City of Lakeland	City
1990	Highlands County Landfill	Owner
1990	Venice Gardens Utilities, Sarasota County	SSU/Allete
1990	South Hutchinson Services, St. Lucie County	SHS
1990	Indian River Utilities, Inc.	City
1990	Coraci Landfill (SW)	Owner
1990	Terra Mar Utility Company	City
1989	Seminole Utility Company, Winter Springs	Topeka/Allete
1989	North Hutchinson Services, Inc., St. Lucie County	NHS
1989	Sugarmill Utility Company	UCCNSB
1989	Ocean Reef Club, Inc., ORCA	Company
1989	Prima Vista Utility Company, City of Ocoee	PVUC
1989	Deltona Utilities, Volusia County	SSU
1989	Poinciana Utilities, Inc., Jack Parker Corporation	JPC
1989	Julington Creek	Investor
1989	Silver Springs Shores	Bank
1988	Eastside Water Company, Hillsborough County	County
1988	Twin County Utilities	Company
1988	Burnt Store Utilities	Company
1988	Deep Creek Utilities	Company
1988	North Beach Water Company, Indian River County	NBWC
1988	Bent Pine Utility Company, Indian River County	BPUC
1988	Country Club Village, SSU	CCV
1987	Sugarmill Utility Company, Florida Land Corporation	FLC
1987	North Orlando Water and Sewer Company, Winter Springs	NOWSCO
1987	Osceola Services Company, FCS (nfp)	OSC
1987	Orange City Water Company, Orange City	City
1987	West Volusia Utility Company, Orange City	City
1987	Seacoast Utilities, Inc., Florida Land Corporation	FLC

And numerous other water and wastewater utility valuations in the 1976-1987 period.

Facility Planning

Mr. Hartman has been involved in over 50 water, wastewater and/or solid waste master plans, and many capital improvement program, and numerous capital construction fund plans. He represented the American Society of Civil Engineers in the State Comprehensive Plan as a Policy Advisory Committee Member on the utility element, and participated in the preparation of Comprehensive Plans, Chapter 9J5, for more than 20 communities. Mr. Hartman has been involved in business planning and strategic planning for not-for-profit, governmental and investor-owned utilities.

Analyses and Design

Mr. Hartman has participated in numerous computer-assisted hydraulic analyses of water and wastewater transmission systems including extended period simulations as well as hydraulic transient analyses. He was involved in wastewater treatment investigations, sludge pilot testing programs, effluent disposal pilot programs and investigations, several energy efficiency analyses, several odor control studies, and other process evaluations for operations. Mr. Hartman participated in value engineering investigations oriented toward obtaining the most cost-effective alternatives for regional and private programs. Mr. Hartman has been involved in the design of package WWTPs through AWT facilities and simple well and chlorination systems through reverse

osmosis facilities. He has been involved in numerous water blending, trihalomethane, synthetic organic contaminant removal, secondary precipitation, corrosion control, and alum precipitation studies. Mr. Hartman has performed process evaluations for simple aeration facilities, surface water sedimentation facilities, water softening facilities, as well as reverse osmosis facilities. He was involved in water conservation program, as well as distribution system evaluation programs. He participated in both sanitary sludge management and disposal studies and co-authored the book entitled "Sludge Management and Disposal for the Practicing Engineer." He also participated in numerous lime sludge thickening, management, and utilization/disposal investigations. Mr. Hartman has been involved in wellfield management studies, wellfield protection ordinances, wellfield siting, water resource evaluations and water resource planning for several entities in sand aquifer, sand and gravel aquifer and limestone aquifer systems.

Utility Management Consulting

Mr. Hartman has been involved in utility transfers from public, not-for-profit, district, investor-owned, and other entities to cities, counties, not-for-profit corporations, districts, and private investors. He has been involved in staffing, budget preparation, asset classification, form and standards preparation, utility policies and procedures manuals/training, customer development programs, standard customer agreements, capacity sales, and other programs. Mr. Hartman has been involved in over 100 interlocal agreements with respect to service area, capacity, service, emergency interconnects, back-up or other interconnects, rates, charges, service conditions, ownership, bonding and other matters. Additionally, Mr. Hartman has assisted in the formation of newly certificated utilities, newly created utility departments for cities and counties, new regional water supply authorities, new district utilities, and other utility formations. Mr. Hartman has assisted in Chapter 180.02 F.S. utility reserve areas for the Cities of Haines City, Sanibel, Lakeland, St. Cloud, Winter Haven, Bartow, Palm Bay, Orange City, and many others. He has participated in the certification of many utilities such as ECFS, Malabar Woods, B&C Water Resources, Inc., Farmton Water Resources, Inc. and may others; and certification disputes such as Windstream, Intercoastal Dulay Utilities, FWSC/ITT, and others and served as service area certification staff of the regulatory for St. Johns County; i.e., Intercoastal, etc.; as service area transfer/certification staff of the regulatory for Flagler County; i.e., Palm Coast to FWSC. He has served as a local county regulatory staff professional in Collier, Citrus, Hernando, Flagler and St. Johns Counties as well as elsewhere. Mr. Hartman has also provided the technical assistance to many utility service area agreements such as Winter Haven/Lake Wales/Haines City, etc. and North Miami Beach – MDWASD and others. For 30 years, Mr. Hartman has been a professional assisting in the resolution of water and wastewater utility issues.

Utility Finance, Rates, Fees and Charges

Mr. Hartman has been involved in hundreds of capital charge, impact fee, and installation charge studies involving water, wastewater, stormwater and solid waste service for various Florida entities. He also has participated in hundreds of user rate adjustment reports. Since 1976, Mr. Hartman assisted in the development of over 50 revenue bond issues, 20 short-term bank loan systems, 2 general obligation bonds, 26 grant/loan programs, 10 capacity sale programs, and 20 privatization programs. He has been involved in over hundreds of utility acquisition/utility evaluations for acquisition, and is a qualified expert witness with regard to utility rates and charges, and utility negotiation, arbitration and condemnation cases. A few of his water, wastewater, reuse and/or solid waste rate and charge projects include:

- Flagler County – Impact Fee Analysis, 2005
- Flagler County – Base Facility Charge Analysis, 2005
- Marion County – Silver Springs Regional – Water and Wastewater Revenue Sufficiency, 2004
- Beverly Beach - Water and Wastewater System, 2004
- Village of Bald Head Island – Water and Wastewater Rate Sufficiency, 2004
- Farmton Water Resources, Inc. – FPSC, 2004
- B&W Water Resources, Inc. – FPSC, 2004
- Marion County – Stonecrest, Marion Oaks, Spruce Creek, Salt Springs, South Forty, Smyral Villas – Rate Integration/Phasing Program, 2003
- City of North Miami Beach – Water and Wastewater Adjustment, 2003
- Cit of Fernandina Beach – Water and Wastewater Rate Study, 2002
- St. Johns County – St. Johns Water Co. Rates, 2003
- St. Johns County – Intercoastal Rates, 2001
- Nashua, NH – Pennichuck Water Co., 2002
- City of Deltona – Water and Wastewater, 2002
- Town of Lauderdale By-The-Sea, 2001

- FICURA – Palm Coast Rates,Certification, 2000
- Marion County – Pine Run, Oak Run, A.P. Utilities – Rate Integration, 2000
- City of North Miami Beach – Revenue Sufficiency Analysis, 2000
- North Key Largo Utility Authority, 2000
- Port St. Lucie – St. Lucie West – CDD, 1999
- Hanover County – Water and Wastewater, 1999
- UCCNSB/Sugarmill, 1999
- Town of Hope Mills, 1998
- Town of Palm Beach, 1998
- City of Winter Haven, 1998
- Palmetto Resources, Inc. – Raw Water, Reuse, Water, and Wastewater, 1997
- City of Miami Springs – Analysis, 1997
- Widefield – Water and Wastewater, 1997
- Bullhead City – Wastewater, 1996
- Marion County, 1996
- Utilities Commission, City of New Smyrna Beach - Water and wastewater Rate Study, 1995
- Okeechobee Utility Authority - Rate and charge study, 1995
- Southern States - Statewide rate case, 1995
- Englewood - AFPI and capital charges, 1995
- Lee County - Rates and charges, 1995
- Venice - Reuse rate study, 1994
- Utilities Commission, City of New Smyrna Beach - Capital charge study, 1996
- Port St. Lucie - Water, gas and wastewater rates, 1994
- Port St. Lucie - Capital charge study, 1995
- Bullhead City - Assessment study, 1996
- Englewood - Assessment study, 1996
- Sanibel - Capacity sale study, 1995
- City of New Port Richey - Rate and charge study, 1995
- Acme Improvements District, Wellington, Florida - Water/wastewater studies, 1994
- Charlotte County, Florida - Water/wastewater studies; Rotunda West rate case, 1993
- Clay County, Florida - Water/wastewater studies, 1992
- City of Deerfield Beach, Florida - Water/wastewater studies, 1992
- City of Dunedin, Florida - Water/wastewater studies, 1991
- Englewood Water District, Florida - Water/wastewater studies, 1993
- City of Green Cove Springs, Florida - Water/wastewater studies, 1991
- Hernando County, Florida - Water/wastewater studies, 1992
- City of Lakeland, Florida - Water studies, 1976-89
- Martin County, Florida - Water/wastewater studies, 1993
- City of Naples, Florida - Water/wastewater and solid waste studies, 1992/94
- City of New Port Richey, Florida - Water/wastewater studies, 1994
- City of North Port, Florida - Water/wastewater studies, 1992
- City of Orange City, Florida - Water/wastewater studies, 1985-94
- City of Palm Bay, Florida - Water/wastewater studies, 1985-94
- City of Panama City Beach, Florida - Water/wastewater studies, 1993
- City of Sanibel, Florida - Water and reuse studies, 1988-94
- Southern States Utilities Inc., Florida - Water/wastewater studies and statewide rate cases, 1991/93
- City of Tamarac, Florida - Water/wastewater studies, 1993
- Utilities Commission, City of New Smyrna Beach, Florida - Water/wastewater and reuse studies, 1992/94
- Volusia County, Florida - Solid waste studies, 1989
- City of West Palm Beach, Florida - Water/wastewater and reuse studies, 1993/94
- City of Sebastian, Florida - Water/wastewater studies, 1993
- City of Tarpon Springs, Florida - Water/wastewater studies, 1994
- City of Miami Springs, Florida - Water/wastewater and solid waste studies, 1994
- City of Edgewater, Florida - Water/wastewater and solid waste studies, 1987-90
- City of Venice, Florida - Reuse studies, 1994

- City of Port St. Lucie - Water/wastewater studies, 1994
- Ocean Reef Club, Monroe County, Florida - Wastewater studies, 1994
- Placid Lakes Utilities Inc., Florida - Water/wastewater studies, 1994
- Old Overtown-Liberty Park, Birmingham, Alabama - Wastewater studies, 1994
- Bullhead City, Arizona - Wastewater studies, 1994
- Lehigh Utilities Inc., Lee County, Florida - Florida Public Service Commission rate cases for water, wastewater and reuse, 1993
- Marco Island and Marco Shores Utilities Inc., Collier County, Florida - Florida Public Service Commission rate cases for water, wastewater and reuse, 1993
- Venice Gardens Utilities Inc., Sarasota County, Florida - Rate cases for water, wastewater and reuse, 1989/91/93
- Mid-Clay and Clay Utilities Inc., Clay County, Florida - Water/wastewater studies, 1993

Several expert witness assignments including Palm Bay vs. Melbourne; Tequesta vs. Jupiter; Town of Palm Beach vs. City of West Palm Beach; City of Sunrise vs. Davie; Kissimmee vs. Complete Interiors; and others.

Economic Evaluations/Credit Worthiness Analyses

- Credit Worthiness Analysis for Drinking Water State Revolving Fund (1999) – Florida Department of Environmental Regulation
- Credit Rating Reviews (1980-2000) – for numerous investor-owned utilities; many city-owned utilities (Winter Haven, Port St. Lucie, Miramar, Tamarac, Palm Bay, North Port, etc.); many county-owned utilities; several not-for-profit utilities; and utility authorities (OUA, etc.)
- Financial Feasibility and Engineer's Revenue Bond Reports (1980-2000) – for over $2 billion of water and/or wastewater bonds for some fifty (50) entities in the Southeast United States including Clay, Lee, Hernando, Martin, and other counties; Lakeland, West Palm Beach, Miramar, Tamarac, Panama City Beach, Winter Haven, Naples, North Port, Palm Bay, Port St. Lucie, New Port Richey, Clermont, Orange City, Deerfield Beach, Sanibel, City of Peachtree City, Widefield, and many other cities; Lee County Industrial Development Authority, Englewood Water District, and other utilities.
- Privatization Procurement and Analysis for many water and wastewater systems including Sanibel, Town of Palm Beach, Temple Terrace, Palm Bay, Widefield, Bullhead City and sever others.

Negotiations/Service Area

Mr. Hartman has participated in over thirty-five (35) service area formations, Chapter 25 F.S. certifications, Chapter 180.02 reserve areas, authority creations, and interlocal service area agreements including Lakeland, Haines City, Bartow, Winter Haven, Sanibel, St. Cloud, Palm Bay, SBWA, ECFS, MWUC, Edgewater, Orange City, UCCNSB, Port St. Lucie, Martin County, OUA, NKLUA, DDUA, and many others

Mr. Hartman has been a primary negotiator for interlocal service agreements regarding capacity, joint-use, bulk service, retail service, contract operations and many others for entities such as the Town of Palm Beach, Miramar, Lauderdale-By-The-Sea, North Miami Beach, Collier County, Marion County, St. Johns County, JEA and many others.

Water Experience

Facility Planning

Mr. Hartman has been involved in over 100 water, wastewater or solid waste master plans, several interlocal negotiations and agreements, over 100 capital improvement programs, and numerous capital construction fund plans. He represented the American Society of Civil Engineers in the State Comprehensive Plan as a Policy Advisory Committee Member on the utility element, and has participated in the preparation of Comprehensive Plans, Chapter 9J5, for more than 20 communities. Mr. Hartman has been involved in over 20 water resource (needs and sources) and treatment plans in every water management district of the State of Florida and in other states.

Analyses

Mr. Hartman has participated in over 100 computer-assisted hydraulic analyses of water and wastewater transmission systems including extended period simulations as well as hydraulic transient analyses. He has been involved in numerous water treatment investigations, 2 sludge pilot testing programs, 14 pilot programs and

investigations, several energy efficiency analyses, several odor control studies, and other process evaluations for operations. Mr. Hartman has participated in 6 value engineering investigations oriented toward obtaining the most cost-effective alternatives for regional and private programs. He has been involved in numerous water blending, trihalomethane, synthetic organic contaminant removal, secondary precipitation, corrosion control, and alum precipitation studies. Mr. Hartman has performed process evaluations for simple aeration facilities, surface water sedimentation facilities, water softening facilities, as well as reverse osmosis facilities. He has been involved in water conservation programs, as well as distribution system evaluation programs. He has also participated in numerous lime sludge thickening, management, and utilization/disposal investigations. Mr. Hartman has been involved in wellfield management studies, wellfield protection ordinances, wellfield siting, water resource evaluations, and water resource planning for several entities in sand aquifer, sand and gravel aquifer and limestone aquifer systems.

Wellfield Siting

Mr. Hartman has been involved in the siting of numerous regional wellfields, system wellfields, individual wells and expansions of existing systems. He has written papers on the interdisciplinary approach to regional water supply and wellfield siting criterion, and thoroughly understands the issues of raw water quality versus treatment, site location factors, CUP permitting factors, as well as source integrity aspects. Wellfields sited by Mr. Hartman include:

- Cross-Bar Ranch Wellfield (75 MGD), Pasco County, Florida, 1978.
- Brandon Wellfield (10 MGD), Hillsborough County, Florida, 1980.
- Northwest Wellfield (54 MGD), Lakeland, Florida, 1981.
- Northeast Wellfield (32 MGD), Lakeland, Florida 1989.
- Edgewater Wellfield (6 MGD), Edgewater, Florida, 1989.
- State Road 415 Wellfield (4 MGD), New Smyrna Beach, Florida, 1990.
- North Beach Water Company Wellfield (4 MGD), Wabasso, Florida, 1982.
- Venice Gardens Wellfield, (4 MGD), Venice, Florida, 1990.
- Deseret/Cocoa Wellfield (20 MGD Expansion), Orange County, Florida, 1992.
- SBWA Bull Creek Wellfield Litigation (20 MGD), 1994.
- Palm Bay Wellfield (11.5 MGD), 1995.
- Port St. Lucie Wellfields (13 MGD), 1996.
- Naples Wellfields (35 MGD), 1997.
- Town of Palm Beach (proposed 24 MGD), 1998.
- City of North Miami Beach (proposed expansion – 17 to 45 MGD), 2000.
- DeSoto County Wellfields, 2004.
- Flagler County Wellfields, 2005.

Design

Mr. Hartman has participated in the design of water and wastewater facilities totaling more than $1 billion in value. He has been involved in the design of 3 elevated storage tanks, 18 ground storage reservoirs, 30 pumping stations, 20 major water treatment plants, numerous smaller water treatment plants, and pipeline systems varying in size from 6 to 84 inches in diameter. Some of the most notable projects include:

- City of Tampa - Electrification of the 100 MGD Hillsborough River water treatment plant, 226 MGD Pumping Station 1980-82.
- City of St. Petersburg - Chemical feed and gravity lime sludge thickener for 81 MGD Cosme-Odessa water treatment plant, 1990.
- City of Lakeland - Preliminary design and subsequent expansion of 51 MGD T.B. Williams water treatment plant, 1981.
- City of Dunedin - Decision documentation and project management for 10 MGD reverse osmosis/membrane softening plant, 1992.
- City of Atlanta – Hemphill 100 MGD plant – 84-, 96-, and 102-inch piping and valves and valve vaults.
- City of Edgewater - Process and technical review of 5.0 MGD softening water treatment plant, 1990.
- City of Edgewater - Design engineering for 2.4 MGD split treatment softening water treatment plant, 1986.
- Southern States Utilities Inc. - Venice Gardens Utilities 3.35 MGD low-pressure reverse osmosis water treatment plant, 1990.
- North Beach Water Company - 0.5 MGD low-pressure reverse osmosis water treatment plant, 1988.

- Southern States Utilities Inc. - Burnt Store Utilities 0.49 MGD low-pressure reverse osmosis water treatment plant, 1991.
- City of Lakeland - Upgrades and improvements to the 51 MGD T. B. Williams water treatment plant.
- Expansion of the Cypress Creek Pumping Station to 125 MGD with 84- and 72-inch transmission improvements.
- Expansion of the Lakeland HSPS to 81 MGD and 54-inch Transmission System.
- Lake Apopka drawdown project with twin 84-inch steel pipelines and 250 MGD Pump Station.
- Numerous fluoridation, defluoridation, iron removal, hydrogen sulfide removal, water stabilization and conventional chlorination/storage water treatment plants.

Surface Water Experience

- City of Tampa, Florida – Hillsborough River Water Treatment Plant Energy Efficiency Study for the 100 MGD plant and pumping stations. Evaluation of energy uses throughout the entire facility and recommendations for higher efficiency concerning energy usage.
- City of Tampa, Florida – Hillsborough River Water Treatment Plant 226 MGD high-service pumping station and 125 low-lift pumping station electrification program. Conversion from steam-driven to electric-driven pumping units and clearwell modifications at the 100 MGD water treatment plant.
- City of Tampa, Florida – Hillsborough River Water Treatment Plant Process Study – Chemical Efficiency Evaluation for liquid potable process as well as sludge processes in compliance with the Safe Drinking Water Act. Process evaluations for the use of chemicals at points of application, alternative chemicals and usage/dosage rate and method of application. Modifications to operations, modifications to chemical feed system, modifications and studies relative to sludge processing, evaluation of innovative sludge techniques, and review of alum recovery techniques.
- City of Atlanta, Georgia, Hemphill 200 MGD Surface Water Treatment Plant – Expert testimony services concerning yard piping, valving, clear wells and high-service pumping suction. Design review, construction management review, construction review, evaluation of facilities and flow schemes, and development of corrective improvement program.
- City of Atlanta, Georgia, Hemphill 200 MGD Surface WTP – Corrective improvement program design consultant. Design of valve vaults and replacement activities, design of storage/clear well facility improvements, and related activities.
- City of Atlanta, Georgia, Chattahoochee 55 MGD Surface WTP – solids management/sludge and washwater recovery improvements. Performed with Western Summit as a design/build activity. Involved in facility development and review for selective alternative.
- City of Milwaukee, Wisconsin – Howard Avenue 100 MGD water treatment plant cryptosporidium expert analysis.
- Osceola County - Evaluation of treatability of water resources of Lake Washington and Bull Creek. Study included capacity, process, and cost analysis. Blending and water stability issues were addressed.
- City of North Port - Evaluation of the Peace River 12 MGD surface water treatment plant which covered process optimization and treatability. Evaluated the Peace River water quality and studied water blends between the Peace River and North Port Water Treatment Plant of 4.4 MGD capacity.
- Manatee County – Lake Manatee 54 MGD Surface Water Treatment Plant Studies of maximum insolubility of alum, lime feed system modifications and improvements, filtration turbidity, operation review and process analysis.
- Louisville Water Company water treatment plant – TTHM study review; TTHM control strategies, contact time study and cooperative research.
- ECFS/COPJCLDS – Taylor Creek Reservoir Treatability Study. This source now augments the City of Cocoa's Cloud Dyal Water Treatment Plant. Color Filtration and water quality analyses.
- Marco Island Utilities – Collier pits water quality review, color hardness, surface water/stormwater impacts. Modifications to Marco Island SWTP. Decommissioning filtration and lowering plant firm capacity from 8 MGD to 5 MGD.
- City of Melbourne, Florida – Lake Washington Surface Water Treatment Plant evaluation, process review, and water blending analysis.
- City of Melbourne, Florida – Lake Washington Surface WTP treatability and process study for 20 MGD WTP, detailed evaluation concerning the surface WTP and recommendations for capital improvement program. Treatability testing, sludge testing, process and potable water testing, raw water quality testing, and complete detailed alternative analysis at a planning level.

- City of Melbourne, Florida – Lake Washington WTP Dorr-Oliver surface water treatment unit renovations; rehabilitation and replacement for continued operation.
- City of Melbourne, Florida – Lake Washington WTP detailed filter analysis and investigations – filter media, underdrains, and filtering mechanisms review and analysis; testing of filter units, turbidity effectiveness evaluation, etc.
- Okeechobee Utility Authority – Lake Okeechobee Surface Water Treatment Plant chemical feed, sludge wasting and filtration review. Facility evaluation, valuation, CIP and financing.

Mr. Hartman has participated in the design of over 200 potable drinking water wells. These wells have been for brackish and fresh water; sand and gravel systems; sand lenses; and the Ocala, Avon Park, Hawthorne, and Lake City formations of the aquifer. He has been involved in the design of odor control systems for water plants, sludge dewatering facilities, and numerous water treatment plants.

Wellfield Design and Water Use Permitting (WUP)
A partial project listing of Mr. Hartman's wellfield design and WUP assignments include:

- City of Tampa - 104 MGD surface water CUP at Hillsborough River water treatment plant and 30 MGD average/40 MGD maximum groundwater CUP for Morris Bridge water treatment plant, 1989.
- City of Lakeland - 54 MGD northwest wellfield CUP, NW7, NWIO, NW13, and NW14 wells, 1986.
- City of Lakeland - 16 MGD northeast wellfield wells NW1, NW2, NW3, NW4, and NW5 CUP, 1989.
- City of Daytona Beach - Wellfield expansion, 1989.
- Utilities Commission, City of New Smyrna Beach - 9.3 MGD, numerous wells, and CUP.
- City of Edgewater - 5.0 MGD wellfield expansion, 11 wells and CUP, 1989.
- City of Titusville - Wellfield management program, restoration, and CUP, 1989/90.
- City of St. Petersburg - Cosme-Odessa and South Pasco regional wellfields, 1986.
- General Development Utilities Inc. - Port St. Lucie wellfield expansion to 5.0 MGD and CUP, 1987.
- North Beach Water Company - Reverse osmosis wellfield, 1985.
- Southern States Utilities Inc. - Venice Gardens reverse osmosis wellfield, 1989/90.
- City of St. Cloud - Wellfield expansion and CUP, 1988.
- Poinciana Utilities Inc. - Wellfield expansion and CUP, 1987.
- Southern States Utilities Inc. - Sugarmill Woods CUP and wellfield expansion from 6.0 to 10.0 MGD, 10 wells, 1989.
- Southern States Utilities Inc. - Sugarmill Woods CUP and 2 additional wells for 0.5 MGD, 1989.
- City of Palm Bay - Port Malabar Utilities Inc., 3 wells CUP for 1.0 MGD, 1990.

Water Transmission & Distribution
Mr. Hartman has been involved in over 500 miles of water transmission and distribution systems designs from 2" to 108" in diameter consisting of PVC, AC, DIP, Steel, RFG and IC-CPP materials. Mr. Hartman has designed in-line booster stations, repump stations, storage and pumping stations, ground storage reservoirs, standpipes, elevated storage tanks and bladder water storage facilities. The above pumping systems were from 100 gpm to 280 MGD and storage reservoirs from 30,000 gallons to 10 MG in capacity.

Water Blending
A partial project listing of Mr. Hartman's water blending experience includes:

- Northwest Florida Water Management District - Sand and gravel aquifer and surface water blending analyses, 1985.
- City of Tampa - Groundwater and surface water blending analyses, 1983.
- City of St. Petersburg/Pinellas County - Organic quality of blending surface water and groundwater, 1984.
- City of Dunedin - Blending and corrosivity of softened and membrane water in the transmission system, 1989.
- City of Edgewater - Floridan aquifer and ultra-low pressure reverse osmosis water stability and Safe Drinking Water Act compliance, 1986.
- City of Lakeland - Floridan aquifer softened water blending, 1985.
- General Development Utilities Inc. - Split-treatment softening blending analyses, 1988.
- Florida Cities Water Company - Floridan aquifer softened water shallow well water quality analysis, Waterway Estates, 1989.

- Southern States Utilities Inc. - Venice Gardens low-pressure reverse osmosis and lime softened water blending program, 1989.
- Southern States Utilities Inc. - Sugarmill Woods low-pressure reverse osmosis shallow well water quality blending expansion, 1985.
- As well as many other water chemistry/blending projects.

Reverse Osmosis

Mr. Hartman's reverse osmosis experience includes:

- Southern States Utilities Inc. - Venice Gardens water treatment plant (3.35 MGD) reverse osmosis water treatment plant, phases 2 and 3, 1988/89.
- North Beach Water Company - Reverse osmosis water treatment plant (1.0 MGD sized for 2.5 MGD) Phases 1, 2, and 3, 1982/84/85.
- City of Dunedin - Ultra-low pressure reverse osmosis water treatment plant (10 MGD) 1989/90.
- Southern States Utilities Inc. - Burnt Store Utilities reverse osmosis water treatment plant (0.48 MGD - 0.24 MGD expansion) 1989/90.
- Florida Cities Water Company - Waterway Estates water treatment plant (2.0 MGD) with reverse osmosis (1.0 MGD) and softened (1.0 MGD) 1989/90.
- Bay Tree reverse osmosis water treatment plant (0. 123 MGD) North Vero Beach, 1986.
- City of North Miami Beach – 6 MGD RO, 8 MGD Nanofiltration Expandable by 16 MGD to equal 30 MGD, 2001-2004.
- City of Melbourne – 5 MGD RO WTP analysis, 1998.
- City of Sunrise – 9 MGD RO WTP analysis, 2001.

Safe Drinking Water Act

Mr. Hartman has participated in Safe Drinking Water Act compliance projects effecting over two million people within the State of Florida, serving the cities of Dunedin, Tampa, Lakeland, St. Petersburg, North Port, and Palm Bay; the counties of Martin and Clay; several of the Southern States Utilities Inc. systems, and many other communities.

Expert Testimony

Mr. Hartman has been accepted in various Circuit Courts, Florida Division of Administrative Hearings, Florida Public Service Commission, arbitration, and quasi-judicial hearings conducted by cities and counties, as a technical expert witness in the areas of water supply, facility planning, water resources, water treatment, water quality engineering, water system design and construction, and utility systems valuation. Recently, Mr. Hartman has been an expert witness on utility condemnation, utility arbitration, water rates and use permitting DOAH case, utility rate setting DOAH case, service area and utility service civil case, City of Atlanta Water Treatment Plant Construction, City of Milwaukee Cryptosporidium, Jupiter vs. Tequesta Water Contract Services and several others.

Wastewater Experience

Design

Mr. Hartman has participated in the design of wastewater facilities throughout Florida totaling more than $500 million in value. He has been involved in the design of odor control systems for wastewater plants; sludge dewatering, PSRP and PFRP facilities; and numerous wastewater treatment plants varying from extended aeration through advanced biological nutrient removal pumping/lift stations for collection/transmission systems. He served as the engineer in charge of numerous wastewater reuse systems; more than 30 golf course reuse systems; numerous percolation pond system/rapid infiltration basin systems; spray irrigation systems; wetlands application systems; surface discharge systems; agricultural reuse systems; forest irrigation systems; as well as power plant reuse systems.

A few projects include:

- Marion County – Oak Run 1.6 MGD WWTP – 2006
- Marion County – Stonecrest 1.0 MGD WWTP - 2006
- Flagler County – Beverly Beach water and wastewater system including a 125,000 gpd/250,000 gpd AST/AWT Membrane Bio-reactor WWTP – 2005
- Fernandina Beach WWTP Upgrades – Filters, etc. – 2003

- AUS, Inc./Poinciana – 0.5 to 1.0 WWTP expansion WWTP #2 – 2000
- Utilities Commission, New Smyrna Beach – 6.0 MGD AWT WWTP and appurtenant consulting activities, 2000.
- Avatar/Poinciana – 0.5 MGD WWTP and spray irrigation – WWTP #2 – 1998
- City of Inverness – WWTP sludge stabilization improvements – 1997
- Flagler Beach – 1.0 MGD WWTP irrigation system upgrades and design – 1996
- Monroe County – Stock Island 0.125 MGD AST WWTP corrections – 1995
- ORCA/NKLUA Key Largo 0.5 MGD WWTP – 1995
- City of Cape Canaveral - 1.8 MGD upgrade to advanced wastewater treatment levels with effluent disposal to a manmade wetland system and subsequently to the Banana River, 1994
- Vestavia, Alabama – Old Overton 0.5 MGD AST WWTP – 1994
- Town of Lexington, S.C. – 1.5 MGD CMAS WWTP with discharge 14 mile creek – 1994
- City of Palm Bay – 0.5 MGD WWTP – CMAS AST – 1993
- City of Sanibel - 1.6 MGD advanced wastewater treatment facility with effluent disposal to two non-restricted public access sites, 1993
- Southern States Utilities Inc. - Venice Gardens Utility 2.5 MGD, Class I wastewater treatment facility with effluent disposal to non-restricted public access sites, rapid rate infiltration basins and sprayfield, 1992
- Glenmuir Subdivision, Orange County - 25,000 gpd wastewater treatment plant, 1992
- Hillsborough County - Northwest regional sludge management facility (25 dry tons per day), consisting of sludge storage, thickening, dewatering, in-vessel composting, and odor control, 1990
- Southern States Utilities Inc. - Marco Island Utility wastewater treatment plant expansion from 2.5 to 3.5 MGD, AST, 1990

He has been involved in service area delineations, major customer agreements, wholesale sewer agreements, regionalization projects and many privatization assignments.

Analyses

Mr. Hartman has participated in over 50 computer-assisted hydraulic analyses of wastewater transmission systems. He was involved in 40 wastewater treatment investigations, 12 sludge pilot testing programs, 14 effluent disposal pilot programs and investigations, several energy efficiency analyses, several odor control studies, and other process evaluations for operations. Mr. Hartman participated in 6 value engineering investigations. Many regionalization projects and privatization procurement projects oriented toward obtaining the most cost-effective alternatives for regional and private programs. He participated in both sanitary sludge management and disposal studies and co-authored the book entitled "Sludge Management and Disposal for the Practicing Engineer." He also participated in numerous lime sludge thickening, management, and utilization/disposal investigations. He has been involved in biosolids management and effluent utilization projects. He has permitted regional sludge stabilization and land application projects. Mr. Hartman has served as an expert regarding several sludge systems including ATAD, Micronair and N-Viro as well as others.

Machinery and Technical Specialties, ASA

Public Utilities Appraisal Specialty Certified, ASA
Tangible Personal Property – VAB, Magistrate – Orange County, FL

Publications

Mr. Hartman has presented several training sessions and seminars for the American Water Works Association, the American Society of Civil Engineers, the Water Environment Federation, and the Water and Pollution Control Operators Association. He has presented and/or published numerous papers on water, wastewater and utility management topics. His two books and papers written since 1994 are shown below.

Books

Hartman, G.C., Utility Management and Finance, (presently under contractual preparation with Lewis Publishing Company/CRC Press).

Vesilind, P.A., Hartman, G.C., Skene, E.T., Sludge Management and Disposal for the Practicing Engineer; Lewis Publishers, Inc.; Chelsea, Michigan; 1986, 1988, 1991.

Papers/Presentations (Since 1994)

Hartman, G.C. and Wanielista, M. P. "Stormwater Reuse: The Utility Business Practice." 9th Biennial Conference on Stormwater Research & Watershed Management. May 2, 2007.

Hartman, G.C. and R.J. Ori, "Water and Wastewater Utility Acquisition," AWWA National Management Specialty Conference, 1994.

Hartman, G.C. and R.C. Copeland, "Utility Acquisitions – Practices, Pitfalls and Management," AWWA Annual Conference, 1995.

Hartman, G.C., "Safe Drinking Water Act," and "Stormwater Utilities," FLC Annual Meeting, 1995.

Hartman, G.C., M.A. Rynning, and R.A. Terrero, "5-Year Reserve Capacity – Can Customers Afford the Cost?" FSASCE Annual Meeting, 1996.

Hartman, G.C., T.A. Cloud, and M.B. Alvarez, "Innovations in Water and Wastewater Technology," Florida Quality Cities, August 1996.

Hartman, G.C., Seth Lehman, "Financing Utility Acquisitions," AWWA/WEF Joint Management Conference, February 1997.

Hartman, G.C., B.V. Breedlove, "Water: Where It Comes From and Where It Goes," FRT & G/FDEP Conference, September 1997.

Hartman, G.C., W.D. Wagner, T.A. Cloud, and R.C. Copeland, "Outsourcing Programs in Seminole County," AWWA/WEF/FPCOA Conference, November 1997.

Hartman, G.C., M.B. Alvarez, J.R. Voorhees, and G.L. Basham, "Using Color as an Indicator to Comply with the Proposed D/DBP Rule," AWWA, Water Quality Technology Conference, November 1997.

Hartman, G.C., "In-House, Outsourcing and the Not-for-Profit Utilities Option," Florida Government Finance Officers Association (FGFOA) Conference, March 27, 1998.

Hartman, G.C. and D.P. Dufresne, "Understanding Groundwater Mounds – A Key to Successful Design, Operation and Maintenance of Rapid Infiltration Basins," April 4-7, 1998, FWWA/WET/FPCOA Joint Meeting.

Hartman, G.C. and Seth Lehman, "Financing Water Utilities – Acquisition and Privatization Projects," AWWA Annual Conference, June 24, 1998.

Hartman, G.C. contributing author, Chapter 14B, Nichols on Eminent Domain, RCNLD Valuation of Public Utilities, March 1999 Edition, Release No. 48.

Hartman, G.C., M.A. Rynning, and V. Hargray, "Assessment of Commercial Customer Water Impacts," AWWA 2000.

Hartman, G.C., M. Sloan, N.J. Gassman, and D.M. Lee, "Developing a Framework to Balance Needs for Consumptive Use and Natural Systems with Water Resources Availability," WEF Watershed 2002 Specialty Conference, February 23-27, 2002.

Hartman, G.C., "Utility Valuation," Wake Forest University Law School Seminar Series, February 7, 2003.

Hartman, G.C., H.E. Schmidt, Jr. and M.S. Davis, "Biosolids Application in Rural DeSoto County, Florida," WEF/AWWA/CWEA Joint Residuals and Biosolids Management Conference, February 19-22, 2003.

Hartman, G.C. and Dr. M. Wanielista, "Irrigation Quality Water – Examples and Design Considerations," ASCE Conference, April 4, 2003.

Hartman, G.C., M.A. Rynning and V. Hargray, "Assessing the Water Demands of Commercial Customer," WEF Volume 6, No. 4, July/August 2003 – Utility Executive.

Hartman, G.C., D. Cooper, N. Eckloff and R. Anderson, "Water," The Bond Buyer's Sixth Southeast Public Finance Conference, February 23, 2004.

Wanielista, Marty and G.C. Hartman, "Regional Stormwater Facilities", Stormwater Management for Highways Transportation Research Board TRB AFB60, July 12, 2005.