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November 13, 2020

Adam J. Teitzman, Commission Clerk
Florida Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee, Florida 32399-0850

Re: Docket No. 20200139-WS

Dear Mr. Teitzman,

Please find enclosed for filing in the above referenced docket the Direct Testimony and Exhibits of Frank W. Radigan. This filing is being made via the Florida Public Service Commission's Web Based Electronic Filing portal.

If you have any questions or concerns; please do not hesitate to contact me. Thank you for your assistance in this matter.

Sincerely,

/s/Stephanie A. Morse
Stephanie A. Morse
Associate Public Counsel

cc: All Parties of Record

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In Re: Application for increase in water and)
wastewater rates in Charlotte, Highlands, Lake,)
Lee, Marion, Orange, Pasco, Pinellas, Polk and)
Seminole Counties by Utilities, Inc. of Florida)

Docket No. 20200139-WS

DIRECT TESTIMONY

Of

FRANK W. RADIGAN

ON BEHALF OF THE CITIZENS OF THE STATE OF FLORIDA

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TABLE OF CONTENTS

I.	INTRODUCTION/BACKGROUND/SUMMARY	2
II.	PRO FORMA ADDITIONS TO RATE BASE	6
III.	USED AND USEFUL	10
IV.	SEWER AND WATER IMPROVEMENT MECHANISM	17
V.	EXCESSIVE INFLOW AND INFILTRATION AND UNACCOUNTED WATER	21
VI.	SUMMARY	22
VII.	CONCLUSION	23

LIST OF EXHIBITS

Exhibit FWR-1	Curriculum Vitae
Exhibit FWR-2	Utilities Inc. of Florida List of Pro-Forma Projects that Lack Sufficient Support Information
Exhibit FWR-3	Utilities Inc. of Florida List of Pro-Forma Projects that are CWIP and Not Plant in Service
Exhibit FWR-4	Labrador Service Area
Exhibit FWR-5	ISO New England Inc. Open Access Transmission Tariff (OATT) Pool Transmission Owners Annual Transmission Revenue Requirement

1 **I. INTRODUCTION/BACKGROUND/SUMMARY**

2 **Q. PLEASE STATE YOUR FULL NAME, ADDRESS, AND OCCUPATION.**

3 A. My name is Frank W. Radigan. I am a principal in the Hudson River Energy Group, a
4 consulting firm providing services in electric, gas, steam, and water utility industry matters,
5 and specializing in the fields of rates, planning, depreciation, and utility economics. My
6 office address is 235 Lark Street, Albany, New York 12210.

7
8 **Q. PLEASE DESCRIBE THE HUDSON RIVER ENERGY GROUP.**

9 A. The Hudson River Energy Group (“HREG”) is an engineering consulting firm specializing
10 in the fields of rates, planning, economics, and utility operations for the electric, natural gas,
11 steam, and water utility industries. HREG was founded in 1998 and has served a wide
12 variety of clients including municipal utilities, government agencies, state commissions,
13 consumer advocates, law firms, industrial companies, power companies, and environmental
14 organizations. HREG conducts rate design and cost of service studies, and designs
15 performance-based rate plans. HREG also assists clients in handling the complexities of
16 deregulation and restructuring, including Open Access Transmission Tariff pricing,
17 unbundling of rates, depreciation, resource adequacy, transmission planning policies and
18 power supply. During HREG’s existence, we have proffered our expertise before the
19 Federal Energy Regulatory Commission (“FERC”) and a large number of state utility
20 regulatory commissions across the country.

21
22 **Q. PLEASE SUMMARIZE YOUR EDUCATION AND BUSINESS EXPERIENCE.**

1 A. I received a Bachelor of Science degree in Chemical Engineering from Clarkson College of
2 Technology in Potsdam, New York (now known as “Clarkson University”) in 1981. I
3 received a Certificate in Regulatory Economics from the State University of New York at
4 Albany in 1990. From 1981 through February 1997, I served on the Staff of the New York
5 State Department of Public Service (the “Department”) in the Rates and System Planning
6 Sections of the Power Division, as well as service in the Rates Section of the Gas and Water
7 Division. My responsibilities included resource planning and the analysis of rates,
8 depreciation rates, and tariffs of electric, gas, water, and steam utilities in the State. I also
9 received specialized training in depreciation from Depreciation Programs, Inc. through a
10 series of week-long intensive training programs and which predated the current depreciation
11 society, Society of Depreciation Professionals. These duties also encompassed rate design,
12 embedded and marginal cost of service studies, and depreciation studies. Before leaving
13 the Department, I was responsible for directing all engineering staff during major
14 proceedings, including those relating to rates, integrated resource planning (“IRP”), and
15 environmental impact studies. In February 1997, I left the Department and joined the firm
16 of Louis Berger & Associates as a Senior Energy Consultant. In December 1998, I formed
17 my own consulting firm.

18 In my 39 years of experience, I have testified as an expert witness in utility rate
19 proceedings on more than one hundred and forty occasions before various utility regulatory
20 bodies, including: the Arizona Corporation Commission, the Connecticut Department of
21 Public Utility Control (now the Connecticut Public Utilities Regulatory Authority), the
22 Delaware Public Service Commission, the Kentucky Public Service Commission, the
23 Illinois Commerce Commission, the Maryland Public Service Commission, the

1 Massachusetts Department of Telecommunications and Energy, the Michigan Public
2 Service Commission, the Mississippi Public Service Commission, the New York State
3 Public Service Commission, the New York State Department of Taxation and Finance, the
4 Nevada Public Utilities Commission, the North Carolina Utilities Commission, the
5 Pennsylvania Public Utility Commission, the Public Service Commission of the District of
6 Columbia, the Public Utilities Commission of Ohio, the Rhode Island Public Utilities
7 Commission, the Vermont Public Service Board, and FERC. Currently, I advise a variety
8 of regulatory commissions, consumer advocates, municipal utilities, and industrial
9 customers concerning rate matters, including wholesale electricity rates and electric
10 transmission rates. A summary of my professional qualifications and experience, including
11 a listing of cases in which I have proffered testimony, is attached (See Exhibit FWR-1).

12
13 **Q. FOR WHOM ARE YOU APPEARING?**

14 A. I am testifying on behalf of the Florida Office of Public Counsel (“OPC” or “Citizens”).

15
16 **Q. WAS THIS TESTIMONY PREPARED BY YOU OR UNDER YOUR DIRECT
17 SUPERVISION AND CONTROL?**

18 A. Yes.

19
20 **Q. WHAT IS THE SCOPE OF YOUR TESTIMONY IN THIS PROCEEDING?**

21 A. I have been asked to review several of the engineering issues of the rate application of
22 Utilities Inc. of Florida (“UIF” or the “Company”). My testimony will address the
23 proposed post-test year pro forma adjustments to rate base, the used and useful percentages

1 for the systems, and the Company's proposed Sewer and Water Improvement Mechanism
2 ("SWIM") for its water and sewer systems. I will also address the excessive inflow and
3 infiltration, and excessive unaccounted for water.

4
5 **Q. WHAT INFORMATION DID YOU REVIEW IN CONDUCTING YOUR**
6 **ANALYSIS?**

7 A. I reviewed the Application and direct testimony and exhibits of UIF, responses to data
8 requests, the Florida Statutes applicable to UIF's rate request, and public information. I also
9 toured several construction projects in the Company's Sanlando and Mid-County systems.

10
11 **Q. PLEASE SUMMARIZE OPC's RECOMMENDATIONS.**

12 A. With respect to the post test year plant additions, the Company proposes 45 separate
13 projects over the 24-month period after the end of the test year (twelve months ending
14 December 31, 2019). Approximately half of these projects are complete at the time of
15 filing this testimony. The remaining half of the projects are either under construction or
16 awaiting construction. I propose several adjustments to the second group of projects
17 because the project documentation submitted to date is insufficient to allow me to verify
18 that the projects will be in-service by the end of the 24-month period pursuant to Section
19 367.081(2)(a)2, F.S. I also propose a second adjustment to the post test year plant for six
20 projects which are studies not related to a construction project and were erroneously
21 included as plant in service.

22 The Company has changed several of the Used and Useful ("U&U") percentages for
23 several systems which were adjudicated and set by the Commission in the Company's last

1 rate case. The Company presents no testimony or evidence to justify these proposed
2 changes. In some cases, there are notes included in the F Schedules supplied with
3 Minimum Filing Requirements (“MFRs”); however, a review of the MFR data shows it is
4 insufficient to change what the Commission has already determined to be the proper U&U
5 percentage.

6 The proposed SWIM is expected to result in rate increases at a rate above
7 inflation for the foreseeable future. The Company proposes to include the SWIM with its
8 annual index filings but that filing process has no provision for customer meetings or
9 hearings. Thus, the proposed mechanism has practical problems associated with its
10 implementation; namely, a lack of an adequate review process. Also, given that the rate
11 case process already allows for 24 months of post-test year plant additions to be reflected
12 in rates and that there has been no showing of the need for a special mechanism to fund
13 capital projects, the necessity of the SWIM has not been established. For these reasons, I
14 recommend that the SWIM not be adopted.

15 OPC has no recommended changes to the Company’s proposed excessive inflow
16 and infiltration and excessive unaccounted for water calculations.

17 **II. PRO FORMA ADDITIONS TO RATE BASE**

18 **Q. PLEASE DISCUSS THE COMPANY’S PRESENTATION WITH RESPECT TO** 19 **THE PRO FORMA ADDITIONS TO RATE BASE.**

- 20 A. UIF proposes 45 separate projects over the 24-month period after the end of the test year
21 (twelve months ending December 31, 2019). UIF does not perform any construction work
22 itself but contracts for the construction of these projects, usually through the competitive

1 bid process.¹ The utility has submitted project price documentation and associated bid
2 documentation for all projects (See UIF's response to Staff's Req. for Produc. 1).
3 Approximately half of the pro-forma plant addition projects have been completed at the time
4 of filing this testimony. For these projects, the Utility's cost estimating process was close,
5 as it forecast the costs to be \$3.1 million, and the actual costs came in at \$3.5 million, with
6 almost all of the cost variance related to one project where the construction contract was not
7 bid or awarded until after the testimony was filed in this case (See UIF's responses to OPC's
8 Interrogatories 63-120). I believe this is attributable to the Company's practice of seeking
9 fixed price bids for their construction projects.

10 For the remaining half of the projects which are either under construction or awaiting
11 construction, verification of construction timing and final price is much more difficult to
12 verify due to the fact that the Company has not provided final construction contracts, a
13 complete set of invoices, or project schedules. This is essential documentation that should
14 have been previously provided, given that UIF has the burden of proof in seeking cost
15 recovery for these projects. To allow UIF to submit this information at a later point in time
16 in this docket is unfair and unreasonable to its captive customers who will bear the costs.
17 For some projects where contracts have been awarded and construction time is short, we
18 can assume that the projects will be completed before the end of the 24-month period
19 pursuant to Section 367.081(2)(a)2, F.S. An example that fits into this category is the PCF
20 - 27 - Sanlando I&I Corrections project which is intended to identify and correct sewer pipe
21 deficiencies. The project has a four-month schedule to complete from the contract award
22 in July 2020 (See UIF's response to OPC's Interrog. 101); thus, even if there is some delay

¹ UIF appears to bid out the construction work when a project is expected to exceed \$75,000, and UIF's policy requires the solicitation of competitive bids (See UIF's response to OPC's Interrog. 2-10).

1 in fixing the identified deficiencies, there should be no problem in getting this project done
2 on time and in time to meet the statutory requirement.

3 For other projects I need more information, however, and cannot just recommend
4 they be included in rate base at this time. For example, for PCF-13, the LUSI Barrington
5 WWTP Improvements project is scheduled to be completed by March 31, 2021 and has an
6 estimated cost of \$380,000, including \$47,000 of engineering costs and \$333,000 of
7 construction costs. This project calls for the installation of a plant lift station, emergency
8 generator, automatic transfer switch, pumps and controls, a field office, and process control
9 lab. The project components address items not included in the original plant design that are
10 reportedly needed to meet operating permit requirements (See Ex. PCF-13). While UIF has
11 provided the bid material for engineering and construction work, there is no project
12 schedule, a project start date, or a signed construction contract (See UIF's response to Staff's
13 Request for Production 1 re: Ex. PCF-13). For this project, and other similar projects, I
14 have asked for the projects' scheduling documentation and the signed contracts with the
15 contractors. Until the documentation is received and reviewed, there is no evidentiary basis
16 upon which to approve these projects, and I cannot endorse the inclusion of these costs into
17 the post test year plant.

18 Another example of the need for documentation relates to PCF-17, which is the Mid-
19 County Headworks project. This project has a cost estimate of \$2,424,782 and when UIF
20 filed its petition, it had an expected completion date of March 31, 2021. This project,
21 however, cannot be started until after the completion of PCF-14 which is the Mid-County
22 Master Lift Station project that is designed to replace the master lift station after the
23 decommissioning and demolition of the original lift station. This project was originally

1 expected to be completed by December 31, 2020 but has now slipped until March 31, 2021
2 (See UIFs response to OPC's Interrog. 82). Since one project is dependent upon the
3 completion of another and the first project has slipped, there is a need for the project
4 scheduling information to determine if the project can meet the 24-month post test year
5 limitation for inclusion in UIF's rate base.

6 The projects for which I am still awaiting further documentation are PCF-13, PCF-
7 14, PCF-16, PCF-17, PCF-18, PCF-20, PCF-23, PCF-28, PCf-29, PCF-31, and PCF-33.
8 These projects total \$ \$9.875,036 in costs and are not reflected in the revenue requirement
9 schedules presented by OPC witness Andrea Crane. Exhibit FWR-2 lists the projects, their
10 costs, and a short description of why inclusion of them is not warranted without further
11 information. Again, UIF has the burden of proof in this case to present its supporting
12 documentation and evidence, which it has failed to do. To allow UIF to submit this
13 documentation and information in an untimely manner is both unfair and unreasonable to
14 UIF's ratepayers who must bear the costs of these projects.

15
16 **Q. PLEASE CONTINUE.**

17 **A.** Based on my review of the project documentation presented, I also propose a second
18 adjustment to the post test year plant for six projects which the Company included as post
19 test year plant additions but do not have actual plant addition associated with them. For
20 example, PCF-26 is the Sanlando Engineering F5/C1/L2 FM Replacements project and is
21 for the engineering, permitting, bidding and Construction, Engineering and Inspection
22 ("CEI") services associated with the replacement of three critical force mains that have
23 reached the end of their service life and have a high consequence of failure (See Ex. PCF-

1 26). However, there is no construction project associated with this project and UIF has
2 indicated through the documentation it provided that the new force main will be constructed
3 under a separate project (*Id.*). The six projects are construction work in progress and not
4 plant in service. When the associated construction projects are complete, the expenditures
5 to date will be added to the construction costs and the project could then be eligible for
6 inclusion in the calculation of revenue requirement at some future time. The six projects in
7 question are listed on Ex. FWR-3 and total \$432,673. These projects are not reflected in
8 the post test year plant addition in the revenue requirement schedules presented by OPC
9 witness Andrea Crane.

10 **III USED AND USEFUL**

11 **Q. DESCRIBE YOUR APPROACH TO USED AND USEFUL FOR THE UIF**
12 **SYSTEMS IN THE RATE CASE.**

13 **A.** My approach to determining U&U for wastewater treatment systems follows the provisions
14 set forth in Rules 25-30.431 and 25-30.432, F.A.C., (U&U Rules) and Section 367.081(2)
15 F.S. (“U&U Statute”). Under these provisions, U&U starts with the test year wastewater
16 flow which is then adjusted to reflect growth for a five-year period beyond the test year
17 and the removal of any excessive inflow and infiltration. This adjusted test year flow is
18 divided by the capacity of the treatment facilities to determine the U&U percentage of the
19 treatment facilities.

20 According to UIF, before the adjudication of Docket No. 20160101-WS, all but
21 seven of the UIF wastewater systems had been found to be 100% U&U.² During the 2016

² Docket 20160101-WS, Testimony of Frank Seidman, Ex. FS-2.

1 Docket, UIF proposed that all but one of the remaining seven, the LUSI wastewater
 2 systems,³ be determined to be 100% U&U. In that same Docket, OPC performed a U&U
 3 analysis for seven systems and the Commission found that five wastewater systems were
 4 less than 100% U&U. In this case, Company witness Seidman is proposing that only three
 5 wastewater systems have a U&U percentage less than 100%. My analytical approach to
 6 U&U was to concentrate on UIF’s proposed changes to the findings made by the
 7 Commission in Docket No. 20160101-WS. Table 1 below summarizes the existing U&U
 8 designations for the five wastewater systems which were found to be less than 100% in
 9 Docket 20160101-WS and UIF’s proposed UIF percentages to be applied in this case. My
 10 analysis for each system then follows.

11 **Table FWR-1**

12 **Present and Proposed U&U Percentages for WW Plant that are currently not 100%**

13 **U&U**

WW System	Current U&U	UIF Proposed
Labrador	79.94%	100%
Lake Placid	29.79%	100%
LUSI	58.78%	72.00%
Golden Hills/Crownwood	93.67%	78.44%
Mid-County	68.65%	100%

³ For LUSI, UIF proposed the U&U to be 69% due to the excess capacity at the wastewater treatment plant compared to test year flows (Docket 20160101-WS, Ex. FS-2).

1 **Q. PLEASE DISCUSS YOUR FINDINGS WITH RESPECT TO THE MID-COUNTY**
2 **SYSTEM.**

3 **A.** The Company proposes the Mid-County U&U be set at 100% (See Ex. FS-2), compared to
4 the current U&U of 93.67%. The permitted capacity at the plant is 900,000 gallons per day
5 (“GPD”). This value compares to the actual test year flow of a daily average flow rate of
6 902,030 GPD and an allowance for future growth of 46,770 GPD, which results in an
7 expected flow rate of 948,800 GPD and a U&U of 105%.

8 In its last rate case, UIF took the position that the U&U for these systems was 100%
9 arguing that the systems were built out and there was no growth potential left. The
10 Commission found otherwise and determined there was room for growth, and calculated the
11 U&U according to the applicable rules, Section 367.081(2), F.S. In this case, UIF properly
12 accounts for growth and the linear regression indicates a growth rate of 0.97% per year.

13 The Mid-County System is in Dunedin, Florida and the plant is less than three miles
14 from the Gulf of Mexico. UIF states that the Mid-County WWTP average day flows can
15 range from as low as 700,000 GPD in dry weather to more than 1,000,000 GPD in extended
16 wet weather (See Ex. PCF-17, Revised). The test year flow data confirms this. In July
17 2019, the rainfall at the St. Petersburg Clearwater Airport was over 18 inches, compared to
18 the normal 9 inches, and the flow at the WWTP was 1.26 million GPD, which is 40% above
19 permitted capacity. For the year, the Tampa area received 60.8 inches of rain compared to
20 the normal 45.4 inches, which is 34% higher than normal. A review of historic flows at the
21 plant indicate that flows average 785,000 per year and the 2019 flows were the highest in
22 the 2013-2020 time period (See UIF’s response to OPC’s Interrog. 122). If this flow rate
23 were used, the U&U would calculate to be 91.74%.

1 For this system, infiltration and inflow due to storm events is an obvious factor in
2 daily flows at the wastewater treatment plant. In fact, one of the pro-forma plant addition
3 projects is aimed at directly addressing this problem: PCF-16 - the Mid-County Curlew
4 Creek I&I Remediation project. Rule 25-30.432, F.A.C., is the rule for wastewater
5 treatment plant used and useful calculations, and allows the Commission to consider the
6 impacts of I&I. I believe this rule should be applied specifically to this system where I&I
7 has such a large and obvious impact. In dry years, simple application of the formula will
8 unreasonably penalize the Utility with a low U&U, and in wet years will reward it. For
9 example, if the 700,000 GPD were substituted into the Schedule F, the U&U would drop to
10 81.8% and if the 1,260,000 per day were used, it would be 147%. Thus, for this system a
11 proper U&U analysis cannot be done by merely following the applicable regulatory
12 provisions, rule's but requires more analysis which includes adjusting for the effects of I&I.
13 Until such analysis is presented, it is prudent to retain the existing U&U of 93.67% which
14 does not unduly penalize nor reward the Company for abnormal water flow. UIF has the
15 burden of proof in this case and, if it believes this level of U&U is unreasonable, it must
16 present a more sophisticated analysis for the Commission's consideration.

17
18 **Q. PLEASE DISCUSS YOUR FINDINGS WITH RESPECT TO THE LABRADOR**
19 **SYSTEM.**

20 A. The Company proposes the Labrador U&U be set at 100% (See Ex. FS-2) compared to the
21 current U&U of 79.94%. The permitted capacity at the plant is 216,000 GPD and the test
22 year three-month maximum average daily flow was 84.447 Million Gallons Per Day
23 ("MGD"). This results in a low U&U of 38.91% (See MFR Schedule F-6 for Labrador).

1 This system serves customers consisting of an 894-lot mobile home park and a 274-lot
2 Recreational Vehicle Park, of which there are currently 891 Single Family Residential
3 customers (“SFR customers”) (*Id.*). In a previous case, Docket 140135-WS, the
4 Commission rejected the use of 100% U&U for this system because an 11.6-acre parcel
5 within the service area owned by the developer had remained vacant. Now, UIF states that
6 the developer has indicated it has plans to finally develop the parcel for 36 manufactured
7 homes (*Id.*).

8 However, there are several problems with UIF’s analysis. First, even though UIF
9 has produced evidence that the developer agreed when asked by the utility that a seven year
10 build out of the vacant area would be a reasonable assumption, it is still an assumption and
11 has not actually occurred yet. Second, even if the 36 additional homes were added to the
12 ERC growth analysis, the U&U percentage would only increase from 39.91% to 40.19%.
13 Third, in the last UIF rate case it was shown that there was an extensive amount of empty
14 land adjacent to the service territory so the service area could expand and serve new
15 customers. A review of satellite imagery of the service territory continues to show this to
16 be true (Ex. FWR-4). For all three of these reasons, I believe that UIF has not met its burden
17 to provide sufficient proof to overturn the Commission’s finding of a 79.94% U&U, and the
18 Company’s proposed change should be rejected.

19
20 **Q. PLEASE DISCUSS YOUR FINDINGS WITH RESPECT TO THE LAKE PLACID**
21 **SYSTEM.**

22 **A.** The Company proposes the Lake Placid U&U be set at 100% (See Ex. FS-2) compared to
23 the current U&U of 29.79%. The permitted capacity at the plant is 90,000 GPD and the test

1 year three-month maximum average daily flow was 14,250 GPD. This results in a low
2 U&U of 15.783% (See MFR Schedule F-6 for Lake Placid). In Docket 2016010-WS, the
3 Commission rejected applying 100% U&U because (a) it recognized that there was some
4 potential for growth, and (b) UIF did not present evidence that further growth was restricted
5 (Order PSC-2017-0361-FOF-WS at 97).

6 UIF now argues that there has been negative growth, as shown in the ERC regression
7 analysis (See MFR Schedule F-10 for Lake Placid), but gives no firm evidence that the
8 system is actually built out to use the design capacity of the plant. In fact, in its responses
9 to discovery, UIF indicates this system is currently serving 136 lots and there are still 63
10 vacant lots (See UIF's response to Staff's Interrog. 30). A review of the growth in the
11 service territory shows that ERCs have risen and fallen over the past five years. Because of
12 this, there is insufficient evidentiary basis to just blindly use the U&U calculations which
13 would result in increasing the U&U determined in the last case. I propose retaining the
14 existing U&U and revisiting the issue in the next UF rate case if UIF can present a sufficient
15 evidentiary basis to do so.

16
17 **Q. PLEASE DISCUSS YOUR FINDINGS WITH RESPECT TO THE LUSI SYSTEM.**

18 A. The Company proposes the LUSI U&U be set at 72% (See Ex. FS-2) compared to the
19 current U&U of 58.78%. The permitted capacity at the plant is 999,000 GPD and the
20 Annual Average Daily Flow for the test year was 547,022 GPD. This alone results in a
21 U&U of 55.00% (See MFR Schedule F-6 for Lake Placid). The statute provides for an
22 allowance for the U&U of existing plant by allowing for growth in the number of customers,
23 but no more than 5% per year. The system has benefited from very high growth in the past

1 five years with a 4.82% annual growth rate. Adding this to the historic test year flows brings
2 the U&U to 65%. However, UIF goes one step further and proposes adding the usage for
3 pre-paid connections that are still in development, resulting in an additional 561 lots to raise
4 the U&U further to 72%.

5 In support of its analysis, UIF states that for this system at the end of 2019, there
6 were 967 lots still to be developed (See MFR Schedule F-8 for LUSI). UIF also states that
7 LUSI averaged 30 new taps per month in 2020, which is consistent with the growth of new
8 ERCs in 2019 in the amount of 351 new taps (See MFR Schedule F-8 for LUSI).

9 UIF's analysis for this system is overly aggressive because it adds both historic
10 growth and growth for pre-paid connections to lots that are still under development. At
11 historic growth rates over the next five years, this system can expect to add 756 new ERCs
12 (See MFR Schedule F-10 for LUSI). To add another 561 ERCs on top of this would not
13 only exceed the number of undeveloped lots on the system (967), but it would also result in
14 an annual growth rate of 5.7% which exceeds the statutory limit of 5% per year. For all
15 these reasons, the Company's addition of prepaid connections on top of the historic growth
16 rate is a double count of growth⁴ and results on an overly optimistic U&U level for this
17 system. Accordingly, I recommend that the pre-paid connections not be used and the U&U
18 be calculated per the statute to be set at 65%.

19
20 **Q. PLEASE DISCUSS YOUR FINDINGS WITH RESPECT TO THE MARION-**
21 **GOLDEN HILLS/CROWNWOOD SYSTEM.**

⁴ It is my understanding a Florida court has addressed this issue and asserted there is a requirement to prevent double-counting of growth. See *Citizens of Fla. v. Fla. Pub. Serv. Comm'n*, 294 So. 3d 961, 967 (Fla. 1st DCA 2019).

1 A. The Company proposes the Golden Hills/Crownwood U&U be set at 78.44% (See Ex. FS-
2 2) compared to the current U&U of 68.65%. The permitted capacity at the plant is 40,000
3 GPD. This value compares to the actual Three Month Average Daily Flow of 26,434 with
4 an allowance for future growth of 4,942 GPD which results in an expected flow rate of
5 31,376 GPD and a Golden Hills/Crownwood U&U of 78.44%.

6 In its last rate case, UIF took the position that the U&U for these systems was 100%;
7 the Company argued that the systems were built out and there was no growth potential left.
8 The Commission found otherwise and determined there was room for growth and calculated
9 the U&U according to the applicable regulatory provisions. In this case, UIF properly
10 accounted for growth and the linear regression indicates a growth rate of 3.74% per year to
11 develop the proposed 78.44% which is slightly higher than what was found in the last case.
12 I have reviewed UIFs calculation and agree with their analysis.

13 **IV. SEWER AND WATER IMPROVEMENT MECHANISM**

14 **Q. PLEASE DISCUSS THE COMPANY’S PROPOSED SEWER AND WATER**
15 **IMPROVEMENT MECHANISM (SWIM).**

16 A. UIF seeks approval of a scheme they have named a “SWIM “and claims that it is designed
17 to allow the Company to recover its revenue requirement on the actual investment amounts
18 (Application at 3). Company witness Jared Deason testifies that the revenue requirements
19 for the SWIM would be filed yearly with the annual index filings (Deason at 3). The
20 revenue requirements for the SWIM and index mechanism would be included together to
21 calculate the annual percentage increase in rates (*Id.*). As explained by Mr. Deason, the
22 filing would detail the investments made, the revenue requirement associated with the

1 investments, and a projection of the next two years of scheduled investments with estimated
2 revenue requirements (*Id.*). Mr. Deason takes the position that the annual filings would
3 provide the opportunity for the Commission to review and audit the program, as well as
4 conduct continuous oversight of the effectiveness and rate impacts to customers (*Id.*).
5

6 **Q. PLEASE COMMENT ON THE CONCEPT OF THE PROPOSED SWIM.**

7 **A.** Under the current regulatory process, water and wastewater utilities in Florida have been
8 allowed to file annual index filings to adjust rates using a “Price Index” which reflects
9 changes in operating costs. The Price Index is addressed in Section 367.081(4)(a), F.S.
10 This statutory process allows water and wastewater utilities to adjust rates based on current
11 specific expenses without applying for a rate increase. The Index is calculated by
12 comparing the Gross Domestic Product Implicit Price Deflator Index of the current and
13 previous fiscal years. The goal of annual index filing is that a utility can recover rising costs
14 and lessen rate shock in subsequent rate cases. The annual index filing does not include
15 reflection of capital investments, nor does it include increases in revenues, or savings that
16 may be realized by a utility. To recover the carrying costs on capital investments, a full rate
17 case must be filed and the Commission, intervenors and the public have an opportunity to
18 review and match revenues, expenses and investments to determine if a change in rates is
19 required.

20 In its responses to discovery, UIF estimates that its expected capital investment over
21 the next five years will average \$8 to \$10 million per year (See UIF’s response to Staff’s
22 Interrog. 5(b)). At this level of investment and at the Company’s requested 7.889% rate of
23 return, after taking into account taxes and depreciation, ratepayers can expect an automatic

1 4% increase in rates per year, plus the rate increase attributable to the annual index filing,
2 which has been increasing at a rate of between 1%-3% per year.

3 As presented in its testimony, the Company is seeking to replace the current
4 regulatory process with a formula ratemaking mechanism that would allow it to recover the
5 carrying costs on any capital investments made. This, together with the annual index filing,
6 would allow UIF to recover all of its expenses and profit from its investments. At the same
7 time, the Company would still be allowed to retain all of the revenue growth from increased
8 sales and increases in the number of customers. In other words, UIF presents a win-win
9 situation for itself. Of course, ratepayers would pay for this win-win situation with rate
10 increases in the range of 5%-8% per year, with no ability to receive the benefits of increased
11 revenues from increased sales. This is simply unfair and unreasonable to UIF's ratepayers.

12 Moreover, there are practical problems with the proposed SWIM as well. First is
13 the fact that the Company simply states what and how much its investments will be without
14 regard to rate impacts. Thus, if the Company seeks more profits from its operations and
15 wants to grow rate base, it can simply invest more, regardless of the true need to invest. In
16 New England, where wholesale electric transmission rates are set via a formula rate adjusted
17 on an annual basis, rates between 2003-2020 investment in plant increased by a factor of 7
18 and rates have increased on average 14.1% per year (See Ex. FWR-5). Based on these
19 results, there is little solace in the fact that UIF claims that the Commission will have the
20 right to review and audit the resultant rate increases. Once the money has been spent, there
21 is little chance of the costs not being allowed for recovery from ratepayers.

22 The second problem with the Company's proposal is the process itself. The annual
23 index filing under Florida Statutes is automatically implemented 60 days after the utility

1 provides its notice of intention to the Commission. Customer meetings and hearings are not
2 used in this process. Thus, by combining the SWIM with the annual index filing, contrary
3 to the Company's claim, there is little if any ability to audit and review the need for the
4 investments and the applicable costs. In its responses to discovery on the review process
5 for the SWIM, UIF proposes that documentation for the SWIM would be provided on
6 February 1st of each year and this would allow for an extra two months for the Commission
7 and its Staff to review and approve the SWIM documentation (See UIF's response to Staff's
8 Interrog.1-7). While this appears commendable, in reality there is no allowance for
9 meetings and hearings under the current annual index filings; thus, "offering" more time for
10 review does nothing on a practical basis. Instead, it would force the Commission to
11 commence a proceeding for the sole purpose of reviewing, verifying, and receiving
12 customer comments on the pro-forma plant additions. Thus, rather than less work, the
13 Company's proposal could result in more work for Commission Staff, intervenors and the
14 Commission.

15 Third, there has been no showing of a need for the mechanism. UIF merely states it
16 wants a SWIM. It has not shown that its investments or operations have been hindered by
17 the lack of one. Indeed, between 2015 and 2019, the Company's plant in service grew by
18 over \$100 million based on the rates set in Docket No. 20160101. The ability to fund these
19 investments is due in large part to UIF's right, by statute, to ask for 24 months of pro-forma
20 plant additions in a rate case. This is quite generous for a utility where the Commission
21 uses a historic test year to set rates and the statute works as intended: it gives the utility the
22 ability to receive carrying charges on plant placed in service for a reasonable period after
23 the end of the test year, thereby allowing the utility to make additional investments in plant.

1 Given the expected increased rates resulting from the SWIM, the practical problems
2 associated with its implementation, and the lack of any showing of need, the SWIM should
3 not be adopted.

4 **V. EXCESSIVE INFLOW AND INFILTRATION AND UNACCOUNTED WATER**

5 **Q. PLEASE DISCUSS THE COMPANY’S PRESENTATION FOR EXCESSIVE**
6 **INFLOW AND INFILTRATION AND EXCESSIVE UNACCOUNTED FOR**
7 **WATER FOR ITS WASTEWATER AND WATER SYSTEMS.**

8 **A.** Company witness Frank Seidman presents the Company’s calculations for Excessive Inflow
9 and Infiltration (“I&I”) and Excessive Unaccounted Water which he summarizes in Ex. FS-
10 3.

11 Inflow and Infiltration result from separate causes. Inflow is storm water that enters
12 into sanitary sewer systems at points of direct connection to the systems. Various sources
13 contribute to the inflow, including footing/foundation drains, roof drains, downspouts,
14 driveways, etc. These sources are typically improperly or illegally connected to sanitary
15 sewer systems. Infiltration is groundwater that enters sanitary sewer systems through cracks
16 and/or leaks in the sanitary sewer pipes. Cracks or leaks in sanitary sewer pipes or manholes
17 may be caused by age related deterioration, loose joints, poor design installation or
18 maintenance errors, damage or root infiltration. Groundwater can enter these cracks or leaks
19 wherever sanitary sewer systems lie beneath water tables or the soil above the sewer systems
20 becomes saturated. Excessive I&I is generally defined as an I&I level of above 10%. I&I
21 should always be minimized because excessive I&I means more wastewater has to be
22 treated, which results in more wastewater treatment costs (e.g., more water to be pumped in

1 lift stations resulting in more chemical costs and purchased power expense). According to
2 UIF's calculations, only two systems, Orangewood and Ravenna Park, have excessive I&I.
3 I have reviewed their Schedule F calculations for all systems, and agree with them and
4 propose no change.

5 Water into the distribution system comes from surface water (e.g. rivers, reservoirs,
6 etc.), groundwater, or water purchased from outside sources. Utilities measure all gallons
7 purchased or pumped and how much water is sold. The difference between the amount
8 going into the system and the amount sold is then identified and, if the utility is able, the
9 amount of water for other uses (line breaks, flushing and water quality testing, etc.) can be
10 isolated and identified. Any remaining difference is termed unaccounted for water. Due to
11 errors in water metering or unidentified line breaks, there is always some unaccounted-for
12 water. In Florida, excessive unaccounted for water is the level above 10%. Excessive
13 unaccounted for water results in higher operating costs such as purchased water expense
14 and/or chemical treatment expense and should be minimized. UIF has identified five
15 systems with excessive unaccounted for water: Lake Placid, LUSI, Golden
16 Hills/Crownwood, Sanlando and Little Wekiva. I have reviewed their Schedule F
17 calculations for all systems, agree with them and propose no change.

18 **VI. SUMMARY**

19 **Q. PLEASE SUMMARIZE YOUR RECOMMENDATIONS.**

20 **A.** I recommend several pro-forma projects be disallowed from rate base because the project
21 documentation submitted to date is insufficient to allow verification that the projects will
22 be in-service by the end of the 24-month period pursuant to Florida Statutes. I also

1 recommend a second adjustment to the post test year plant for six projects which are in fact
2 simply studies that are not related to a construction project, and as such, were erroneously
3 included in the revenue requirement calculations. These studies improperly labeled
4 “projects” cannot be included in revenue requirement calculations until there is actual plant
5 in service associated with them and customers can obtain benefits from their use.

6 The Company has changed several of the Used and Useful (“U&U”) percentages for
7 several systems which were adjudicated and set by the Commission in the Company’s last
8 rate case. Several of these changes are unreasonable because the Company presented no
9 testimony or evidence to justify these proposed changes, and a review of the Company’s
10 Application data shows it is insufficient to change what the Commission has already
11 determined to be the proper U&U percentages.

12 The proposed SWIM is expected to result in rate increases at a rate above inflation
13 for the foreseeable future. The Company proposes to include the SWIM with its annual
14 index filings; however, that filing process has no provision for customer meetings or
15 hearings or other Commission review of the proposed changes. Thus, the proposed
16 mechanism has practical problems associated with its implementation; namely, a lack of an
17 adequate review process. Also, given that the rate case process already allows for 24 months
18 of post-test year plant additions to be reflected in rates and that there has been no showing
19 of the need for a special mechanism to fund capital projects, the necessity of the SWIM has
20 not been established.

21 VII. CONCLUSION

22 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

1 A. Yes, it does.

CERTIFICATE OF SERVICE
DOCKET NO. 20200139-WS

I **HEREBY CERTIFY** that a true and correct copy of the foregoing Citizens' Notice of Service has been furnished by electronic mail on this 13th day of November 2020, to the following:

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FRANK W. RADIGAN

EDUCATION

B.S., Chemical Engineering -- Clarkson University, Potsdam, New York (1981)

Certificate in Regulatory Economics -- State University of New York at Albany (1990)

PROFESSIONAL EXPERIENCE

1998–Present **Principal/Owner, Hudson River Energy Group, Albany, NY** -- Provide research, technical evaluation, due diligence, reporting, and expert witness testimony on electric, steam, gas and water utilities. Provide expertise in electric supply planning, economics, regulation, wholesale supply and industry restructuring issues. Perform analysis of rate adequacy, rate unbundling, cost-of-service studies, rate design, rate structure and multi-year rate agreements. Perform depreciation studies, conservation studies and proposes feasible conservation programs.

1997–1998 **Manager Energy Planning, Louis Berger & Associates, Albany, NY** – Advised clients on rate setting, rate design, rate unbundling and performance based ratemaking. Served a wide variety of clients in dealing with complexities of deregulation and restructuring, including OATT pricing, resource adequacy, asset valuation in divestiture auctions, transmission planning policies and power supply.

1981–1997 **Senior Valuation Engineer, New York State Public Service Commission, Albany, NY** – Starting as a Junior Engineer and working progressively through the ranks, served on the Staff of the New York State Department of Public Service in the Rates and System Planning Sections of the Power Division and in the Rates Section of the Gas and Water Division. Responsibilities included the analysis of rates, rate design and tariffs of electric, gas, water and steam utilities in the State and performing embedded and marginal cost of service studies. Before leaving the Commission, was responsible for directing all engineering staff during major rate proceedings.

FIELDS OF SPECIALIZATION

Electric power restructuring, wholesale and retail wheeling rates, analysis of load pockets and market power, divestiture, generation planning, power supply agreements and expert witness testimony, retail access, cost of service studies, rate unbundling, rate design and depreciation studies.

EXPERT WITNESS TESTIMONY

Case 9487 – Maryland American Water Company – Testified on behalf of a group of large commercial water customers on the reasonableness of a proposed settlement that is schedule to increase their rates by thirty six percent. 2018

Docket No. OP 17-01942 – Before the State of New York Supreme Court Appellate Division in the matter of the City of Jamestown vs. the Town Council of the Town of Ellicott and the Board of Trustees of the Village of Falconer on behalf of the defendants testified on the reasonableness of the City’s claimed reason for condemning property in the Town and Village. 2018

Docket No. 17-170 – Boston Gas and Colonial Gas-In behalf of the Massachusetts Attorney General testified on the reasonableness of the Companies proposed Gas Safety and Reliability Programs, the companies proposed depreciation rates and the Company’s capital additions through the end of the test year. 2018.

Re: Steam Pipe Explosion at 41st St. and Lexington Ave. - New York County Index No.: 768000/08E – Testified on

behalf of Team Industrial Services, Inc. in opposition to the Motion for Summary Judgment filed by Consolidated Edison Company of New York, Inc. regarding the root cause for the explosion. 2017.

Docket No. 17-06004 – Nevada Power Company - On behalf of the Staff of the Nevada Public Service Commission, testified on the reasonableness of Company's proposed electric depreciation rates. 2017.

Docket No. E-01345A-16-0036 – Arizona Public Service -- On behalf of the on behalf of the Arizona Residential Utility Consumer Office examined the reasonableness of the Company's rate increase, revenue allocation and rate design. 2017

Case 9423 – Maryland Water Services – On behalf of Maryland Office of People's Counsel testified on the reasonableness of the water utility's proposed revenue requirement. 2016

Docket No. EL15-85-001- New Hampshire Transmission LLC – On behalf of the Massachusetts Attorney General, the Connecticut Public Utilities Regulatory Authority, the Connecticut Office of Consumer Counsel, the Rhode Island Division of Public Utilities and Carriers, the Rhode Island Attorney General, the Maine Public Advocate and the Vermont Department of Public Service on the reasonableness of the Company's accounting for certain expenses for transmission planning efforts and whether these expenses should have been recovered under a FERC approved formula rate for transmission revenue requirement - 2016

Docket No. 16-06008 – Sierra Power Company - On behalf of the Staff of the Nevada Public Service Commission, testified on the reasonableness of Company's proposed electric depreciation rates. 2016.

Docket No. 16-06009 – Sierra Power Company - On behalf of the Staff of the Nevada Public Service Commission, testified on the reasonableness of Company's proposed gas depreciation rates. 2016.

Docket No. E-01 933A-15-0322 – Tucson Electric Power -- On behalf of the on behalf of the Arizona Residential Utility Consumer Office examined the reasonableness of the Company's rate increase, revenue allocation and rate design. 2016

FC 1137 – Washington Gas Light -- On behalf of the Office of the People's Counsel of the District of Columbia, testified on the reasonableness of the Company's long term capital spending program and proposal for the recovery of costs of Washington Gas Light Company's pipe replacement programs. 2016

Docket No. 14-0741 – Utilities Services of Illinois, Inc. – On behalf of the Illinois Attorney General testified to the reasonableness of the proposed increase in water rates - 2015

D.P.U. Dockets 14-130 thru 14-135 – Six Massachusetts Gas Utilities – On behalf of On behalf of the Massachusetts Attorney General testified to the reasonableness of the accelerated gas pipe replacement programs for each of the investor owned gas distribution utilities in Massachusetts. 2015

Case 15-E-0283 – New York State Electric and Gas Corporation – On behalf of Nucor Steel, Auburn, Inc. examined the reasonableness of the utility's proposed depreciation rates, cost of service issues (including tree trimming), revenue allocation and rate design. 2015

Case No. 2014-00371 – Kentucky Utilities Company – On behalf of the Office of Rate Intervention of the Attorney General for the Commonwealth of Kentucky testified on the reasonableness of the Company proposed rate increase. 2015

Case No. 2014-00372 – Louisville Gas and Electric Company – On behalf of the Office of Rate Intervention of the Attorney General for the Commonwealth of Kentucky testified on the reasonableness of the Company proposed rate increase. 2015

Case No. 15-E-0307 – On behalf of the Massena Electric Department prepared rate filing before the New York Public Service Commission to increase its annual revenues and design rates designed to encourage energy efficiency. 2015

Docket No. WS-01303A-14-0010 – Epcor Water Arizona - On behalf of the on behalf of the Arizona Residential Utility Consumer Office examined the reasonableness of the Company's rate increase. 2015

Docket No. 14-0741 – Utilities, Inc. – On behalf of the Illinois Attorney General testified on the reasonableness of the water utility's proposed revenue requirement. 2015

Case 9344 – Green Ridge Utilities – On behalf of Maryland Office of People's Counsel testified on the reasonableness of the water utility's proposed revenue requirement. 2014

FC 1115 – Washington Gas Light -- On behalf of the Office of the People's Counsel of the District of Columbia, testified on the reasonableness of the Company's proposal for the recovery of costs and funding aspects of Washington Gas Light Company's Revised Accelerated Pipe Replacement Plan. 2014

Case No. EC-123-0082-00 – Entergy Mississippi – On behalf of Mississippi Public Utilities Staff reviewed and testified on the reasonableness of Entergy Mississippi, Inc.'s proposed depreciation rates and cost of service study. 2014

Case 9345 – Maryland Water Services – On behalf of Maryland Office of People's Counsel testified on the reasonableness of the water utility's proposed revenue requirement. 2014

Case No. 2013-00167 – Columbia Gas of Kentucky – On behalf of the Office of Rate Intervention of the Attorney General for the Commonwealth of Kentucky testified on the reasonableness of the Company proposed rate increase. 2013

Docket 13-G-1301 – Consolidated Edison – On behalf of US Power Generating Company testified on the reasonableness of proposed modifications to natural gas balancing services. 2013

Docket No. 13-01-09 – United Illuminating – On behalf of the Connecticut Office of Consumer's Counsel examined the reasonableness of the Company's proposed construction budget. 2013

Case U-17169 - Semco Energy - On behalf of the Michigan Department of Attorney General testified on the reasonableness of the Company's proposal to modify its accelerated main replacement form for gas distribution facilities. 2013

Docket No. 13-06003 – Sierra Power Company - On behalf of the Staff of the Nevada Public Service Commission, testified on the reasonableness of Company's proposed depreciation rates. 2013.

Docket No. E-01 933A-I 2-0291 – Tucson Electric Power -- On behalf of the on behalf of the Arizona Residential Utility Consumer Office examined the reasonableness of the Company's rate increase. 2012

Case No. FC 1093 - Washington Gas and Light – On behalf of the Office of the People's Counsel of the District of Columbia, testified on the reasonableness of the Company's proposal to replace and/or remediate certain gas distribution facilities that are subject of this case, 2012.

Docket No. C-2011-2226096 — Pennsylvania American Water Co. - In a class-action lawsuit, testified before the Pennsylvania Public Utility Commission on behalf of C. Leslie Pettko on the reasonableness of the surcharges imposed by Pennsylvania American Water Company. 2012

Docket No. 11-06007 – Nevada Power Company – On behalf of the Staff of the Nevada Public Service Commission, testified on the reasonableness of the Company electric depreciation study on Nevada Power Co. 2011

MEUA –On behalf of the Municipal Electric Utilities Association, filed testimony with the New York Power Authority (NYPA) on the reasonableness of the Authority's 2011 Rate Modification Plan for the Niagara Power Project. 2011

Case No. 9283 – Green Ridge Utilities, Inc. – On behalf of Maryland Office of People's Counsel testified on the

reasonableness of the water utility's proposed revenue requirement. 2011

Case No. 11-G-0280 – Corning Natural Gas -- On behalf of the Village of Bath, NY, testified on the construction program, revenue requirement, and rate design proposed by the gas distribution company serving the Village. 2011

Case No. 10-G-0598 – Bath Electric Gas and Water Systems - Testified as to the reasonableness of the Village of Bath's request for a refund relating to overcharges for gas purchased from the Corning Natural Gas Co. 2011

Case No. U-16472 – Detroit Edison -- On behalf of four large hospitals – Detroit Medical Center, Henry Ford Health Systems, William Beaumont Hospital, and Trinity Health Michigan – testified on the reasonableness of the continuation of a service class for large customers with special contracts. 2011

Case No. 9252 – Artesian Water Maryland, Inc. - On behalf of the Maryland Office of People's Counsel, analyzed proposed revenue requirement of Artesian Water Maryland, Inc. 2011.

Case No. 10-E-0362 – Orange and Rockland Utilities, Inc. - On behalf of a coalition of municipalities, testified on the reasonableness of the proposed revenue requirement of Company. 2010.

Docket No. 05-10-RE04 – Connecticut Light and Power Co. – On behalf of the Connecticut Office of Consumer Counsel, testified on the reasonableness of the assist in its review of the application of Company for approval of full deployment of its Advance Metering Infrastructure (“AMI”). 2010

Docket Nos. 10-06003 and 10-06004 – Sierra Power Company - On behalf of the Staff of the Nevada Public Service Commission, testified on the reasonableness of Company's proposed depreciation rates. 2010.

Case No. 10-E-0050 – Niagara Mohawk Power Corporation -- On behalf of a coalition of municipalities, testified on the reasonableness of utility's proposal to eliminate contracts to provide street lighting service. 2010

Case No. 9248 – Maryland Water Services - On behalf of the Maryland Office of the People's Counsel, testified on the reasonableness of the proposed revenue requirement of Maryland Water Services, Inc. 2011

Docket No. 10-12-02 – Yankee Gas Services Company -- On behalf of the Connecticut Office of Consumer Counsel, testified on the reasonableness of the Company's proposed depreciation rates. 2010

Case 09-E-0715 – New York State Electric and Gas Corporation -- On behalf of Nucor Steel, Auburn, Inc. examined the reasonableness of the utility's proposed construction program, revenue allocation, rate design and decoupling mechanism. 2010

Case 09-S-0029 – Consolidated Edison – On behalf of the County of Westchester testified to the reasonableness of a Report Regarding Steam Price Elasticity and Long Term Steam Revenue Requirement Forecast 2010

Docket No. 09-01299 – Utilities, Inc. of Central Nevada - On behalf of the Nevada Attorney General's Bureau of Consumer Protection testified on the overall revenue requirement, the appropriate level of rate case expense, and allocation of corporate salaries. 2010

Docket No. 09-12-11 – Connecticut Water Company – On behalf of the Connecticut Office of Consumer's Counsel examined the reasonableness of the proposed Water Conservation Adjustment Mechanism. 2010

Case 9217 – Potomac Electric Power Company – On behalf of the Maryland Office of People's Counsel examined the reasonableness of the utility's proposed jurisdictional cost of service study, revenue allocation and rate design. 2010

Docket No. 09-12-05 – Connecticut Light & Power Company – On behalf of the Connecticut Office of Consumer's Counsel examined the reasonableness of the proposed depreciation rates, revenue allocation and rate design. 2010

Case 09-S-0794 – Consolidated Edison – Steam Rates -- On behalf of County of Westchester testified to the reasonableness of the Company's proposal to increase retail rates. 2010

Case 09-G-0795 – Consolidated Edison – Gas Rates -- On behalf of County of Westchester testified to the reasonableness of the Company's proposal to increase retail rates. 2010

Case 10-S-0001 – Project Orange Associates, LLC -- On behalf of Project Orange Associates testified to the reasonableness of whether the steam customers of Syracuse University could benefit if a steam transportation tariff were adopted by the New York Public Service Commission. 2009

Docket No. E-7, Sub 900 – Duke Energy Carolinas, LLC – On behalf of the Sierra Club, Southern Alliance for Clean Energy testified on the reasonableness of the Company's request to recover construction work in progress in rate base and to comment on whether the costs incurred by the Company for the supercritical coal plant Cliffside Unit 6 are reasonable and prudent. 2009

D.P.U. 8-64 – New England Gas Company – On behalf of the Massachusetts Attorney General testified to the reasonableness of the accuracy of the Company's accounting data as it related to affiliate transaction with the parent Company. 2009

Formal Case No. 1027 – Washington Gas Light Company – On behalf of the Office of People's Counsel of the District of Columbia testified to the reasonableness of the Company's use of mechanical couplings and problems related thereto. 2009

Docket No. G-04204A-08-0571 -- UNS Gas, INC. -- On behalf of the on behalf of the Arizona Residential Utility Consumer Office examined the reasonableness of the Company's embedded cost of service study, proposed revenue allocation, and proposed rate design. 2009

Case 09-S-0029 – Consolidated Edison – On behalf of the County of Westchester testified to the reasonableness of the method of allocating costs between the utility's steam system and its electric system. 2009

Docket No. 09-0407 – Commonwealth Edison – On behalf of the People of the State of Illinois testified to the reasonableness of Company's Chicago Area smart Grid Initiative. 2009

Docket No. E-01345A-08-0172 – Arizona Public Service – On behalf of the on behalf of the Arizona Corporation Commission examined the reasonableness of the Company's embedded cost of service study, proposed revenue allocation, proposed rate design and proposal regarding demand side management cost recovery. 2009

Case 9182 – Maryland Water Service, Inc. – On behalf of the Maryland Office of People's Counsel examined the reasonableness of the utility's proposed bulk purchased water rate increase. 2009

Case 9182 – Artesian Water Maryland, Inc. – On behalf of the Maryland Office of People's Counsel examined the reasonableness of the utility's proposed advance fees to connect new water customers in the Whitaker Woods subdivision. 2009

Case 08-E-0539 – Consolidated Edison – Electric Rates -- On behalf of County of Westchester testified to the reasonableness of the Company's proposal to increase retail electric rates by \$854 million. 2008

Docket No. 08-07-04 – United Illuminating – On behalf of the Connecticut Office of Consumer's Counsel examined the reasonableness of the Company's proposed construction budget. 2008

Docket No. 08-06036 – Spring Creek Utilities - On behalf of the Nevada Attorney General's Bureau of Consumer Protection testified on the overall revenue requirement, the cost allocation and amortization of a new financial accounting system, the appropriate level of rate case expense, allocation of corporate salaries, recovery of property taxes, and rate design. 2008

D.P.U. 8-35 – New England Gas Company – On behalf of the Massachusetts Attorney General testified to the reasonableness of the Company's request to increase rates in light of the terms of a previous settlement, the level of expenses being charged from the parent Company to the affiliate, the proposed increase in depreciation expense and

the proposed revenue allocation and rate design. 2008

Docket No. 08-96 – Artesian Water Company - on behalf of the Staff of the Delaware Public Service Commission examined the reasonableness of the Company's cost of service study and proposed revenue allocation and rate design. 2008

Docket No. 05-03-17PH02 – Southern Connecticut Gas Company – on behalf of the Connecticut Office of Consumer's Counsel examined the reasonableness of the Company's embedded costs of service study and proposed revenue allocation and rate design. 2008

Docket No. 06-03-04PH02 – Connecticut Natural Gas Corporation – on behalf of the Connecticut Office of Consumer's Counsel examined the reasonableness of the Company's embedded cost of service study and proposed revenue allocation and rate design. 2008

Docket No. G-01551A-07-0504 – Southwest Gas Corporation – on behalf of the Arizona Corporation Commission examined the reasonableness of the Company's embedded cost of service study, proposed revenue allocation, proposed rate design and proposals regarding revenue decoupling. 2008

Docket No. E-01933A-07-0402 – Tucson Electric Power Company – on behalf of the Arizona Corporation Commission examined the reasonableness of the Company's embedded cost of service study, proposed revenue allocation, proposed rate design and proposals regarding mandatory time of use rates. 2008

Docket No. 07-09030 – Southwest Gas Corporation – on behalf of the Staff of the Nevada Public Utilities Commission testified on the reasonableness of the utility's proposed depreciation rates. 2008

Civil Action 05-C-457-1 – Dominion Hope – on behalf of former employee of the utility examined the utility's hedging and sales for resale practices between affiliates. 2008

Case 07-829-GA-AIR – Dominion East Ohio – on behalf of the Office of the Ohio Consumer's Counsel examined the reasonableness of the Company's embedded cost of service study, proposed revenue allocation and rate design and examined the reasonableness of proposals on revenue decoupling and straight fixed variable rate design. 2008

Case 07-S-1315 – Consolidated Edison Steam Rates -- On behalf of County of Westchester testified to the reasonableness of the method of allocating costs between the utility's steam system and its electric system. 2008

Case No. 9134 – Green Ridge Utilities, Inc. – on behalf of the Maryland Office of People's Counsel examined the reasonableness of the utility's proposed rate application including the appropriate cost allocation and amortization period for expenses incurred to develop and implement Project Phoenix (a new software and financial accounting system project), the appropriate level of rate case expense, the requested rate of return and the appropriate level and allocation for common expenses from the parent company. 2008

Case No. 9135 -- Provinces Utilities, Inc. – on behalf of the Maryland Office of People's Counsel examined the reasonableness of the utility's proposed rate application including the appropriate cost allocation and amortization period for expenses incurred to develop and implement Project Phoenix (a new software and financial accounting system project), the appropriate level of rate case expense, the requested rate of return and the appropriate level and allocation for common expenses from the parent company. 2008

Case 07-M-0906 – Energy East and Iberdrola – On behalf of Nucor Steel, Auburn, Inc. examined the reasonableness of the proposed Acquisition of Energy East Corporation by Iberdrola merger. 2008

Case 07-E-0523 – Consolidated Edison – Electric Rates -- On behalf of County of Westchester testified to the reasonableness of the Company's proposal to increase retail electric rates by over \$1.2 billion or 33%. 2007

Docket Nos. ER07-459-002, ER07-513-002, and EL07-11-002 – Vermont Transco -- on behalf of the Vermont Towns of Stowe and Hardwick, and the Villages of Hyde Park, Johnson and Morrisville on whether the direct assignment and rate impacts of a proposed transmission line were with current policy of the Federal Energy Regulatory Commission

2007

Docket No. 07-05-19 – Aquarion Water Company – On behalf of the Connecticut Office of Peoples Counsel examined the reasonableness of the utility’s proposed revenue allocation, rate design, weather normalization and depreciation rates 2007

Docket No. E-04204A-06-0783 – UNS Electric – On behalf of the Arizona Corporation Commission testified on the reasonableness of the utility’s proposed revenue allocation and rate design. 2007

Docket Nos. 06-11022 and 06-11023 – Nevada Power Company – On behalf of the Staff of the Nevada Public Utilities Commission testified on the reasonableness of the utility’s proposed depreciation rates and expense levels. 2007

Case 06-G-1186 – KeySpan Delivery Long Island – on behalf of the Counties of Nassau and Suffolk analyzed the Company’s proposed rate design for amortization of costs for expenditures relating to Manufactured Gas Plants. 2007

Case 06-M-0878 – National Grid and KeySpan Corporation -- on behalf of the Counties of Nassau and Suffolk analyzed the public benefit of the proposed merger, customer service, demand side management programs, rate relief as it relates to competition and customer choice, the repowering of the existing generating stations on Long Island, and the remediation of contamination caused by Manufactured Gas Plants. 2007

Docket No. 06-07-08 – Connecticut Water Company – On behalf of the Connecticut Department of Utility Control examined the reasonableness of the utility’s proposed depreciation rates, revenue allocation and rate design. 2006

Docket No. EL07-11-000 – Vermont Transco -- on behalf of the Vermont Towns of Stowe and Hardwick, and the Villages of Hyde Park, Johnson and Morrisville evaluated whether the proposed and subsequently abandoned allocation of costs for the Lamoille County Project was reasonable and whether the direct assignment and rate impacts of a proposed transmission line were with current policy of the Federal Energy Regulatory Commission. 2006

Case 05-S-1376 – Consolidated Edison – Steam Rates -- On behalf of County of Westchester testified to the reasonableness of the method of allocating costs between the utility’s steam system and its electric system. 2006

Docket No. 06-48-000 – Braintree Electric Light Department – On behalf of the municipal utility presented an cost of service study used to calculate the annual revenue requirement for a generating station that was deemed to be required for reliability purposes. 2006

Case 05-E-1222 – New York State Electric and Gas Corporation – On behalf of Nucor Steel, Auburn, Inc. examined the reasonableness of the utility’s proposed average service lives, forecast net salvage figures, and proposal to switch from whole life to remaining life method. 2006

Docket No. 05-10004 – Sierra Pacific Power Company – On behalf of the Staff of the Nevada Public Utilities Commission testified on the reasonableness of the utility’s proposed electric depreciation rates and expense levels. 2006

Docket No. 05-10006 – Sierra Pacific Power Company – On behalf of the Staff of the Nevada Public Utilities Commission testified on the reasonableness of the utility’s proposed gas depreciation rates and expense levels. 2006

Docket No. ER06-17-000 – ISO New England, Inc. – On behalf of a group of municipal utilities in Massachusetts prepared an affidavit on the reasonableness of proposed changes to the Regional Network Service transmission revenue requirements rate setting formula. 2005

Case 04-E-0572 – Consolidated Edison – Electric Rate – On behalf of the County of Westchester testified to the reasonableness of the Company’s revenue allocation amongst service classes and the company’s fully allocated embedded cost of service study. 2004

Docket No. 04-02-14 – Aquarion Water Company – On behalf of the Connecticut Department of Utility Control

examined the reasonableness of the utility's proposed depreciation rates, weather normalization proposal and certain operation and maintenance expense forecasts. 2004

Docket No. U-13691 – Detroit Thermal, LLC – On behalf of the Henry Ford Health Systems testified on the reasonableness of the utility's proposed default tariffs for steam service. 2004

Docket No. 04-3011 – Southwest Gas Corporation – On behalf of the Staff of the Nevada Public Utilities Commission testified on the reasonableness of the utility's proposed depreciation rates and expense levels. 2004

Docket No. ER03-563-030 -- Devon Power, LLC, *et al.* – On behalf of the Wellesley Municipal Light Plant filed a prepared affidavit with FERC with respect the proposal of ISO New England, Inc. to establish a locational Installed Capability market in New England. 2004

Docket No. 03-10002 – Nevada Power Company – On behalf of the Staff of the Nevada Public Utilities Commission testified on the reasonableness of the utility's proposed depreciation rates and expense levels. 2004

Case 03-E-0765 – Rochester Gas and Electric Corporation - Before the New York Public Service Commission submitted testimony on rate design, rate unbundling, depreciation, commodity supply and reasonableness and ratemaking treatment of proceeds from the sale of a nuclear generating plant. 2003

New York State Department of Taxation and Finance Versus Brooklyn Navy Yard Cogeneration Partners – Testified on behalf of independent power producer in income tax case regarding tax payments associated with gas used to produce electricity. Testimony focused on ratemaking policies and practices in New York State. 2003

Docket No. 2930 – Narragansett Electric – Before the Rhode Island Public Utilities Commission submitted testimony on the reasonableness of the utility's proposed shared savings filing and its implications for the overall reasonableness of the Company's distribution rates. 2003

Docket No. 03-07-01 – Connecticut Light and Power Company – Before the Connecticut Department of Public Utility Control testified to the recovery of “federally mandated” wholesale power costs. 2003

Docket No. ER03-1274-000 – Boston Edison Company – Before the Federal Energy Regulatory Commission submitted affidavit on the reasonableness of the utility's proposed depreciation rates and expense levels. 2003

Case 210293 – Corning Incorporated – Before the New York Public Service Commission submitted an affidavit on certain actions of New York State Electric & Gas Corporation regarding the wholesale price of power in New York and the utility's billing practices as they relate to flex rate contracts. 2003

Case 332311 – Nucor Steel Auburn, Inc. – Before the New York State Public Service Commission submitted an affidavit on certain actions of New York State Electric & Gas Corporation regarding the wholesale price of power in New York and the utility's billing practices as they relate to flex rate contracts. 2003

Case 6455/03 – Prepared affidavit for consideration by the Supreme Court of the State of New York as to the purpose, need and fuel choice for the Jamaica Bay Energy Center (Jamaica Bay) as it related to good utility planning practice for meeting the energy needs of utility customers. 2003

Case 00-M-0504 – New York State Electric and Gas Corporation – Reviewed reasonableness of utility's fully allocated embedded cost of service study and proposed unbundled delivery rates. 2002

Docket No. TX96-4-001 – On behalf of the Suffolk County Electrical Agency proposed unbundled embedded cost rates for wheeling of wholesale power across distribution facilities. 2002

Case 00-E-1208 – Consolidated Edison: Electric Rate Restructuring – On behalf of Westchester County, addressed reasonableness of having differentiated delivery services rates for New York City and Westchester. 2001

Case 01-E-0359 – Petition of New York State Electric & Gas – Multi-Year Electric Price Protection Plan – Addressed

reasonableness of Price Protection Plan (PPP); presented alternative rate plan that called for 20% decrease in utility's base rates. 2001

Case 01-E-0011 – Joint Petition of Co-Owners of Nine Mile Nuclear Station – Addressed the reasonableness of the proposed nuclear asset sale and the ratemaking treatment of the after gain sale proposed by NYSEG. 2001

Docket No. EL00-62-005 – ISO New England Inc. – Submitted affidavit on reasonableness of ISO's proposed \$4.75/kW/month Installed Capability Deficiency Charge. June 2001

Docket No. EL00-62-005 – ISO New England Inc. – Submitted affidavit on reasonableness of proposed \$0.17/kW/month Installed Capability Deficiency Charge. January 2001

Docket No. 2861 – Pascoag Fire District: Standard Offer, Charge, Transition Charge and Transmission Charge – Testified on elements of individual charges, procedures for calculation and reasons for changes from previous filed rates. 2001

Case 96-E-0891 – New York State Electric & Gas: Retail Access Credit Phase – On behalf of a large industrial customer, testified on cost of service considerations regarding NYSEG's earnings performance under the terms of a multi-year rate plan and the appropriate level of Retail Access Credit for customers seeking alternate service from alternate suppliers. 2000

Docket No. ER99-978-000 – Boston Edison Company: Open Access Transmission Tariff – Testified on design, revenue requirement, and reasonableness of proposed formula rates proposed by Boston Edison Company for calculating charges for local network transmission service under open access tariff. 1999

Docket Nos. OA97-237-000, et. al. – New England Power Pool: OATT – Testified on design, revenue requirement, and reasonableness of proposed formula rate for transmission service; testified to proposed rates, charges, terms and conditions for ancillary services. 1999

Docket No. 2688 – Pascoag Fire District: Electric Rates – Testified on elements of savings resulting from renegotiation of contract with wholesale power supplier and presented analysis that justified need for and amount of base rate increase. 1998

New York State Department of Taxation and Finance Versus Zapco Energy Tactics Corporation – Testified on behalf of independent power producer in income tax case regarding tax payments associated with electric interconnection equipment. Testimony focused on policies and practices faced in doing business in New York State. 1998

Docket No. 2516 – Pascoag Fire District: Utility Restructuring – Testified on manner and means for utility's restructuring in compliance with Rhode Island Utility Restructuring Act of 1996. Testimony presented a methodology for calculating stranded cost charge, unbundled rates, and new terms and conditions of electric services in deregulated environment. 1997

Case 94-E-0334 – Consolidated Edison: Electric Rates – Led Staff team in review of utility's multi-year rate filing seeking increased rates of \$400 million. Directed team in review of resource planning, power purchase contract administration, and fuel and purchased power expenses and testified on reasonableness of company's actions regarding buy-out of contract with an independent power producer and renegotiation of contract with another independent power producer. Lead negotiations for multi-year settlement and performance-based ratemaking package that resulted in a three-year rate freeze. 1994

Case 93-G-0996 – Consolidated Edison: Gas Rates – Testified on reasonableness of utility's proposed depreciation rates. 1994

Case 93-S-0997 – Consolidated Edison: Steam Rates – Testified on reasonableness of utility's resource planning for steam utility system. 1994

Case 93-S-0997 and 93-G-0996 – Consolidated Edison: Steam Rates – Testified on reasonableness of multi-year rate

plan proposed by the utility. 1994

Case 94-E-0098 – Niagara Mohawk: Electric Rates – Reviewed utility’s management of its portfolio of power purchase contracts with independent power producers for the reasonableness of recovery of costs in retail rates. 1994

Case 93-E-0807 – Consolidated Edison: Electric Rates – Testified on rate recovery mechanism for costs associated with termination of five contracts with independent power producers. 1993

Case 92-E-0814 – Petition for Approval of Curtailment Procedures – Testified on methodology for estimating amount of power required to be curtailed and staff’s estimate of curtailment. 1992

Case 90-S-0938 – Consolidated Edison: Steam Rates – Testified on reasonableness of utility’s embedded cost of service study, and proposed revenue re-allocation and rate design. 1991

Case 91-E-0462 – Consolidated Edison: Electric Rates – Implementation of partial pass-through fuel adjustment incentive clause. 1991

Case 90-E-0647 – Rochester Gas and Electric: Electric Rates – Analysis and estimation of monthly fuel and purchased power costs for use in utility’s performance based partial pass-through fuel adjustment clause. 1990

Case 29433 – Central Hudson Gas and Electric: Electric Rates – Analysis of utility’s construction budgeting process, rate year electric plant in service forecast, lease revenue forecast, forecast and rate treatment of profits from sales of wholesale power and estimation of fuel and purchased power expenses for use in the utility’s partial pass-through fuel adjustment clause. 1987

Case 29674 – Rochester Gas and Electric: Electric Rates – Review of utility’s historic and forecast O&M expenditure levels forecast and rate treatment of profits from wholesale power, and estimation of fuel and purchased power expenses, and price out of incremental revenues from increased retail sales. 1987

Case 29195 – Central Hudson Gas and Electric: Electric Rates – Review of utility’s construction budgeting process, analysis of rate year electric plant in service, forecast and rate treatment of profits from sales of wholesale power, and estimation of fuel and purchased power expenses. 1986

Case 29046 – Orange and Rockland Utilities: Electric Rates – Testified on the reasonableness of the utility’s proposed depreciation rates and expense levels. 1985

Case 28313 – Central Hudson Gas and Electric: Electric Rates – Review of utility’s construction budgeting process; analysis of rate year electric plant in service forecast; review of rate year operations and maintenance expense forecast; forecast and rate treatment of profits from sales of wholesale power; estimation of fuel and purchased power expenses. 1984

Case 28316 – Rochester Gas and Electric: Steam Rates – Price out of steam sales including the review of historic sales growth, usage patterns and forecast number of customers. 1984

OTHER PROJECT HIGHLIGHTS

Rate Setting Experience

OATT Rates – On behalf of several municipal utilities in New England – Developed cost based annual revenue requirements for regional network transmission rates; represent utilities before ISO New England committees on transmission rate setting issues. Ongoing

Rate Setting – Village of Bath – Case No. 17-G-0423 - Prepared rate filing before the New York Public Service Commission for the Village of Bath Gas Department to increase its annual gas revenues. 2017

Rate Setting – Village of Bath – Case No. 17-E-0429 - Prepared rate filing before the New York Public Service Commission for the Village of Bath Electric Department to increase its annual electric revenues. 2017

Rate Setting – Village of Boonville – Case No. 16-E-0565 – Prepared rate filing before the New York Public Service Commission for the Village of Boonville Electric Department to increase its annual electric revenues. 2016

Rate Setting – Dover Plains Water Company – Case 14-W-0378 -- Prepared rate filing before the New York Public Service Commission for the Dover Plains Water Company to increase its annual water revenues. 2014

Rate Setting – Village of Castile – Case No. 14-E-0358 – Prepared rate filing before the New York Public Service Commission for the Village of Castile Electric Department to increase its annual electric revenues. 2014

Depreciation Study – Village of Swanton – On behalf of the Village of Swanton, Vt. Electric Department prepared a depreciation study for use in setting new depreciation rates to be submitted to the Vermont Public Service Board. 2014

Rate Setting – Village of Hamilton – Case 13-G-0584 – On behalf of the Village of Hamilton, NY designed initial rates for new municipal gas utility. Beginning with a preliminary feasibility study to determine the feasibility of initiating a natural gas utility within the Village of Hamilton performed feasibility study to determine potential load, supply options, construction cost and overall economics of such a venture. The feasibility study concluded that natural gas was economical if a lateral line was run from interstate pipelines to serve the University alone but not to the Village due to the Village's low load factor. The feasibility study also concluded that it would be even more economical if both the Village and University both started using natural gas to serve their needs. After reporting the results of the feasibility study Mr. Radigan was then retained to turn the feasibility study into reality and to stay with the project from its concept phase to inception and beyond. He was then assigned to do a market penetration analysis to determine potential build out of the system and was charged with load forecasting, design day forecasting, market penetration analysis, economic analysis via alternative fuels, route planning, resource planning (an interesting assignment in an area that had no firm capacity and had to rely on backhauling) and the rate design for both firm and interruptible customers. 2013-Present

Rate Setting – Fillmore Gas Company - Case No. 13-G-0039 - Prepared rate filing before the New York Public Service Commission for the Fillmore Gas Company to increase its annual gas revenues. 2013

Rate Setting – Alliance Energy - Case No. 12-G-0256 - Prepared rate filing before the New York Public Service Commission for the Alliance Energy Transmission, LLC to increase its annual gas transportation. 2012

Rate Study – Atmos Energy – Docket No. 11-UN-184 – On behalf of the Mississippi Public Service Commission, submitted report on reasonableness of Company's depreciation study. 2012

Rate Study – Entergy Mississippi –Docket No. 11-UA-83 -- On behalf of the Mississippi Public Service Commission, prepared report on the reasonableness of Entergy Mississippi's depreciation study. 2012

Rate Case Cost of Service Study – Mississippi Power Company – On behalf of the Mississippi Public Service Commission, prepared report on reasonableness of embedded cost of service study submitted by Mississippi Power Co. 2012

Rate Case Cost of Service Study – Boonville, NY – Prepared class load study and embedded cost of service study to justify change in rate design for the purpose of conserving energy. 2010-2012

Rate Setting – Alliance Energy Transmission - Case No. 12-G-0256 – Prepared rate filing before the New York Public Service Commission for Alliance Energy Transmission. 2012

Rate Setting – Hamilton, NY - Case No. 12-E-0286 - Prepared rate filing before the New York Public Service Commission for the Village of Hamilton, NY to increase its annual electric revenues. 2012

Rate Setting – Fairport, NY – Case No. 11-E-0357 - Prepared rate filing before the New York Public Service

Commission for the Village of Fairport, NY to increase its annual electric revenues. 2011

Jurisdictional Cost of Service – Mississippi Power Company – On behalf of the Staff of the Mississippi Public Utilities Staff prepared a report on the reasonableness of the Company's jurisdictional cost of service study. 2010

Rate Analysis – Southwestern Power Company – On behalf of a coalition of retail customers analyzed reasonableness of utility's request to include the costs of Construction Work In Progress Expenditures in rates for a power plant known as the Turk Plant. 2010

Rate Study – Stowe Electric Department, VT – Docket No. 8169 – For small municipal electric utility, filed rate case before the Vermont Public Service Board. 2010

Docket No. 10-10-03 – Assisted in the CT OCC's review and development of recommendations for the Review of the 2011 Conservation and Load Management Plan. 2010

Rate Setting – Endicott, NY - Case No. 10-E-0588 – Prepared rate filing before the New York Public Service Commission for the Village of Endicott, NY to increase its annual electric revenues. 2010

Rate Case Cost of Service Study – Heritage Hills Water Works – For small water company, performing cost of service study for the preparation of a full cost of service study before the New York Public Service Commission. 2009

Rate Case Cost of Service Study – Stowe Electric Department, NY – For small municipal electric utility, assisted in the preparation full cost of service study before the Vermont Public Service Board. 2009

Rate Setting Training – MMWEC – Assisted in training MMWEC staff on rate setting process so that they could provide service to members. 2009

Rate Setting – Connecticut Natural Gas -- Docket No. 08-12-06 - Assisted the Connecticut Office of Consumer Counsel on the analysis of the reasonableness of the of the Company's proposed revenue requirement. 2009

Rate Filing – Heritage Hills Water Works – Case No. 08-W-1201 – Prepared rate filing before the New York PSC for the Heritage Hills Water Works Corporation to increase its annual water revenues. 2008

Rate Study – Hudson River Black River Regulating District -- For regulating body performed detailed cost of service allocation in order to allocate costs among beneficiaries of water regulation. 2008

Rate Case Cost of Service Study – Village of Greene, NY – For small municipal electric utility, assisted in the preparation full cost of service study before the New York Public Service Commission. 2008

Rate Case Cost of Service Study – Village of Bath, NY – For small municipal electric utility, assisted in the preparation full cost of service study before the New York Public Service Commission. 2008

Rate Case Cost of Service Study – Village of Richmondville, NY – For small municipal electric utility, assisted in the preparation full cost of service study before the New York Public Service Commission. 2008

Economic Development Rate – Massena Electric Department – For municipal electric utility, developed tariffs for economic development rates for new or expanded load.

Rate Case Cost of Service Study – Village of Hamilton, NY – For small municipal electric utility, prepared full cost of service study before the New York Public Service Commission. 2004

Rate Study – Pascoag Utility District – Reviewed the application of the Power Authority of the State of New York to increase rates to its wholesale power customers. 2003

Rate Study - Kennebunk Power and Light Department – Performed rate study of new multi-year wholesale power contract against existing rates to determine impact on overall revenue recovery and cash flows of utility. 2003

Rate Case Cost of Service Study – Village of Arcade, NY – For small municipal electric utility, assisted in the preparation full cost of service study before the New York Public Service Commission. 2003

Rate Case Cost of Service Study – Village of Philadelphia, NY – For small municipal electric utility, assisted in the preparation full cost of service study before the New York Public Service Commission. 2003

Rate Case Cost of Service Study – Village of Hamilton, NY – For small municipal electric utility, prepared full cost of service study before the New York Public Service Commission. 2004

Rate Case Cost of Service Study – Fillmore Gas Company – For small natural gas local distribution company, performing cost of service study for internal budget controls and formal rate case before the New York Public Service Commission. 2003

Rate Case Cost of Service Study – Rowlands Hollow Water Works – For small water company, performing cost of service study for internal budget controls and formal rate case before the New York Public Service Commission. 2003

Standby Rates – Independent Power Producers of New York – Analyzed reasonableness of proposed standby rates of Niagara Mohawk Power Corporation; proposed alternate rate designs; participated in settlement negotiations for new rates. 2002

Economic Development Rates – Pascoag Utility District – Designed new cost based economic development rates charged to large industrial customer contemplating locating within the municipality. 2002

Municipalization Study – Kennebunk Power and Light Department – Performed economic analysis of municipal utility serving remaining portions of Village not already served; performed valuation of the plant currently owned by Central Maine Power. 2001

Water Rate Study – Pascoag Utility District – Performed cost of service study for water utility; presented alternate methods of funding revenue requirement. 2001

Pole Attachment Rates – Middleborough Gas and Electric Department – Designed cost based pole attachment rates charged to CATV customers. 2000

ISO Service Tariff -- On behalf of three municipal utilities, analyzed cost basis and proposed rate design of ISO Service Tariffs. 2000

Pole Attachment Rates – City of Farmington, New Mexico municipal electric department – Designed cost based pole attachment rates for CATV customers. 1999

Consolidated Edison Restructuring – Member NYPSC Staff team – Negotiated major restructuring settlement with Consolidated Edison, which decreased utility's rates by \$700 million over five years; implemented retail access program; performed rate unbundling; divestiture of utility generation and the allowance of the formation of a holding company; accelerated depreciation of generation; established customer education programs on restructuring; established service quality and service reliability incentive to ensure that provision of electric service will diminish as competitive market emerges. The agreement served as the template for restructuring in New York. 1997

Cost-of-service Review and Rate Unbundling – Performed rate unbundling of retail rates of Orange & Rockland Utilities, Inc. to facilitate delivery of New York Power Authority energy to customer located in Orange & Rockland's service territory. 1992

Vintage Year Salvage and Study - Managed joint study of staff from Rochester Gas and Electric Corporation and NYPSC to determine feasibility of using vintage year salvage accounting for determining future salvage rates. 1985

Wholesale Commodity Markets

Transmission Expansion Planning – Various Utilities -- Member of Transmission Expansion Advisory Committee in the New England Power Pool – the Committee is charged with the study of transmission expansion needs in the deregulated New England electric market. Ongoing

Locational Based Pricing – Reading Municipal Light Department -- Using GE multi-area production simulation model (MAPS), analyzed New England wholesale power market to cost differences between various generators and load centers. 2003

Merchant Plant Analysis – Confidential client – Using GE multi-area production simulation model (MAPS), analyzed New York City wholesale power market to determine economics of restructuring PURPA era contract to market priced contract. 2002

Market Price Forecasting – El Paso Merchant Energy – Analyzed New England power market using MAPS for purpose of pricing natural gas supply in order to ensure that plant was dispatched at 70% capacity factor as required under its gas supply contract. 2002

Market Price Analysis – Novo Windpower – Analyzed hourly market price data in New York for each load zone in State in order to optimize location of new wind power projects. 2002

Gas Aggregation – Village of Ilion – Advised client on costs/benefits of aggregating residential gas customers for purpose of gas purchasing. 2002

Gas Procurement – Albany County, New York – Assisted client in analysis of economics of existing gas purchase contract; negotiated termination of contract; designing request for proposal for new natural gas supply. 2000

HQ Prudence Review – Selected by Vermont Public Service Board to perform prudence review power supply contract between Hydro Quebec and Central Vermont Public Service Corporation. 1998

Wholesale Power Supply – Prepared comprehensive RFP to optimize power supply for Solvay municipal utility by complementing existing low cost power supplies in order to entice new industrial load to locate within Village. 1997

Analysis of Load Pockets and Market Power – Performed analysis of load pockets and market power in New York State; determined physical and financial measures that could mitigate market power. 1996

Study of IPP Contracts and Impacts in New York – Performed study to determine rate impacts of power purchase contracts entered into by investor owned utilities and independent power producers (IPPs); separately measured rate impacts resulting from statewide excess-capacity; determined level of non-optimal reserves for each utility. 1995

Power Purchase Contract Policies and Procedures – Directed NYSPSC Staff teams in formulation of short- and long-run avoided cost estimates (LRACs) using production simulation model (PROMOD); forecasted load and capacity requirements; developed utility buy-back rates; presented expert witness testimony on buy-back rate estimates and calculation methodologies, thereby implementing curtailment of IPPs as allowed under PURPA. 1990-1994

Integrated Resource Planning - Led NYSPSC Staff team's examination of each utility's IRP process and examination of impacts of processes and regulatory policies influencing the decision making process. 1994

Intrastate Wheeling Commission Transmission Analysis and Assessment – Chairman of NYSPSC Proceeding to examine plans for meeting future electricity needs in New York State. Addressed measures for estimating and allocating costs of wheeling, including embedded cost, short-run marginal cost and long run incremental cost methods. 1990

Environmental Issues

Energy Conservation Study – Pascoag Utility District – Designed energy conservation rebate program based on cost benefit study of various alternatives. Program funded through State mandated collection of energy conservation monies from ratepayers. 2002

Clean Air Act Lawsuit – New York State Attorney General – Investigated modifications made at coal fired generating units of New York utilities to determine whether major modifications were made with obtaining pre-construction permits as required by the Prevention of Significant Deterioration (PSD) provisions of the Act. 1999-2002.

Environmental Impact Study and Simulation Modeling Analysis – Analyzed potential environmental impacts of restructuring electric industry in NY using production simulation model PROMOD. 1996

Renewable Resources – Project Leader in NYSPSC proceeding regarding development and implementation of utility plans to promote use of renewable resources. 1995

Environmental and Economic Impacts Study – Directed study of pool-wide power plant dispatch with environmental adders to determine environmental and economic effects of dispatching electric power plants with monetized environmental adders. 1994

Clean Air Impact Study – Directed study of effects of the Clean Air Act of 1990. Measured statewide cost savings if catalytic reductions control facilities were elected to comply with 1990 Clean Air Act Amendments; installed components on units in metropolitan NY region. 1994

Environmental Externalities and Socioeconomic Impacts Study – Managed NYSPSC proceeding to determine whether to incorporate environmental costs into Long-Run Avoided Costs for the State’s electric utilities. Study purposes: explore the socioeconomic impacts of electric production as compared with DSM; monetize environmental impacts of electricity. 1993

PRESENTATIONS AND PUBLICATIONS

National Association of State Utility Consumer Advocates Annual Conference, 2012 – Speaker on accelerated main replacement programs

National Association of State Utility Consumer Advocates Annual Conference, 2008 – Speaker on a case study of “Smart Metering”

Multiple Intervenors Annual Conference – What Will Impact Market Prices? 1998, Syracuse, New York – Speaker on the impact that deregulation would have on market prices for large industrial customers.

IBC Conference – Successful Strategies for Negotiating Purchased Power Contracts, 1997, Washington, DC – Speaker on NY power purchase contract policies, ratepayer valuation, contract approval process and policy on recovery of buyout costs.

Gas Daily Conference – Fueling the Future: Gas’ Role in Private Power Projects, 1992, Houston, Texas – Panel member addressing changing power supply requirements of electric utilities.

Phillip S. Teumim and Frank W. Radigan: The Small Water Company Dilemma: Processes and Techniques for Effective Regulation, *National Regulatory Research Institute 2011-18*

MEMBERSHIPS/ASSOCIATIONS

Member Municipal Electric Utility Association
New York State Independent System Operator

Utilities Inc. of Florida List of Pro-Forma Projects
that Lack Sufficient Support Information

Exhibit FWR-2

Page 1 of 1

Utilities Inc. of Florida
List of Pro-Forma Projects that Lack Sufficient Support Information

PCF Exhibit #	Job Description	County	System	System Type	Base Project Cost
13	Barrington WWTP Cap Improvements	Lake	LUSI	Sewer	\$ 380,000
14	Mid-County Master Lift Station	Pinellas	Mid-County	Sewer	\$ 2,103,578
16	Curlew Creek I&I Improvements	Pinellas	Mid-County	Sewer	\$ 700,027
17	MC Headworks Improvements	Pinellas	Mid-County	Sewer	\$ 2,424,782
18	Eng Relocate LS 10 FM	Pinellas	Mid-County	Sewer	\$ 55,750
20	L/S RTU Installation - 2020091	Charlotte	Sandalhaven	Sewer	\$ 127,907
23	Const - Wekiva WWTF Headworks	Seminole	Sanlando	Sewer	\$ 2,479,877
28	E.E. Williamson Utility Relocations	Seminole	Sanlando	Water	\$ 444,026
29	Lift Station Mechanical Rehab	Seminole	Sanlando	Sewer	\$ 510,040
31	Sanlando Ground Storage Tanks Remediation	Seminole	Sanlando	Water	\$ 145,919
33	FM / GSM Relocation	Pinellas	Tierra Verde	Sewer	\$ 503,130
					<u>9,875,036</u>

Note: Source responses to OPC ROGS 81, 82, 84, 85, 86, 97, 102,103, 105, 107 and Staff POD 1.

Utilities Inc. of Florida List of Pro-Forma Projects
that are CWIP and Not Plant in Service

Exhibit FWR-3

Page 1 of 1




Utilities Inc. of Florida
List of Pro-Forma Projects that are CWIP and Not Plant in Service

PCF Exhibit #	Job Description	County	System	System Type	Base Project Cost
6	Engineering WWTP Master Plan	Pasco	Labrador	Sewer	\$ 43,500
21	Smoke Testing/I&I Investigation	Charlotte	Sandalhaven	Sewer	\$ 61,847
26	ENG F5/C1/L2 FM	Seminole	Sanlando	Sewer	\$ 194,500
30	UIF CIP Analysis/Modeling	Seminole	Sanlando	Sewer	\$ 98,280
39	ST PW - Smoke Testing/I&I Investigation	Pasco	Summertree	Sewer	\$ 27,481
45	Eng Northwestern Bridge WM Replacement	Seminole	UIF - Wekiva?	Water	\$ <u>7,065</u>

432,673

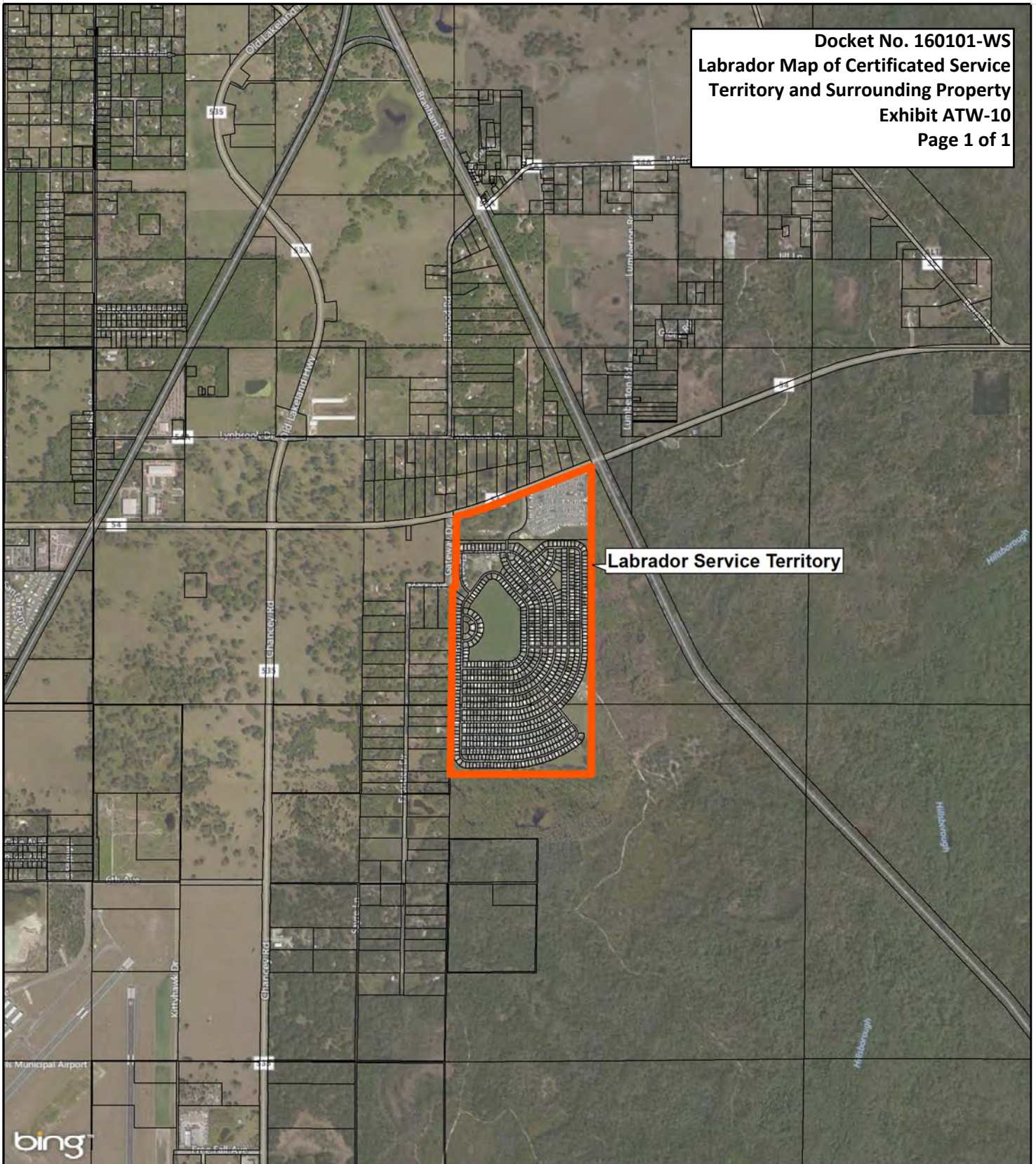
Note: Source responses to OPC ROGS 71, 100, 104, and 120.

Legend



-  41311 Paquette Way
-  Feature 1
-  Victory Baptist Church

41311 Paquette Way

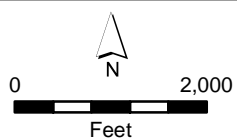




Source: Pasco County, FL; BING imagery

- LEGEND**
-  Labrador Service Territory
 -  Parcels

Docket 20200139-WS
Labrador Service Area
Exhibit FWR-4 Page
2 of 2



LABRADOR SERVICE TERRITORY

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ISO New England Inc. Open Access Transmission Tariff (OATT) Pool Transmission Owners Annual Transmission Revenue Requirement

Calendar Year Ending	Pool Transmission Investment \$ Millions	Pool Transmiiison Rate \$/kW/Yr
12/31/2003	\$2,217	\$15.60
12/31/2004	\$2,344	\$16.81
12/31/2005	\$2,562	\$18.88
12/31/2006	\$3,075	\$26.31
12/31/2007	\$3,759	\$27.90
12/31/2008	\$5,761	\$43.85
12/31/2009	\$6,237	\$59.95
12/31/2010	\$6,667	\$64.83
12/31/2011	\$7,037	\$63.87
12/31/2012	\$8,053	\$75.25
12/31/2013	\$9,501	\$85.32
12/31/2014	\$10,412	\$89.80
12/31/2015	\$11,762	\$98.70
12/31/2016	\$12,651	\$104.10
12/31/2017	\$13,543	\$111.96
12/31/2018	\$14,677	\$110.43
12/31/2019	\$15,716	\$111.94
12/31/2020		\$129.26

Source: ISO New England Annual Information filing with FERC