

Control Number: 45188



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JOINT REPORT AND APPLICATION OF ONCOR ELECTRIC DELIVERY COMPANY LLC, OVATION ACQUISITION I, L.L.C., OVATION ACQUISITION II, L.L.C., AND SHARY HOLDINGS, L.L.C. FOR REGULATORY APPROVALS PURSUANT TO PURA §§ 14.101,	<i>യ യ യ യ യ യ യ യ യ</i>	PUBLI
REGULATORY APPROVALS		

PUBLIC UTILITY COMMISSION

OF TEXAS

CONFORMED

REBUTTAL TESTIMONY

AND EXHIBIT

OF

MICHAEL J. VILBERT

ON BEHALF OF

OVATION ACQUISITION I, L.L.C.,

OVATION ACQUISITION II, L.L.C.,

AND

SHARY HOLDINGS, L.L.C.

December 21, 2015

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INDEX TO THE REBUTTAL TESTIMONY AND EXHIBIT OF MICHAEL J. VILBERT, WITNESS FOR OVATION ACQUISITION I, L.L.C., OVATION ACQUISITION II, L.L.C., AND SHARY HOLDINGS, L.L.C.

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Exhibit R-MJV-1

REIT and Utility Access to Equity Market through

Secondary Offerings

REBUTTAL TESTIMONY OF MICHAEL J. VILBERT

2	I.	INTRODUCTION
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- 3 Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.
- 4 A. My name is Michael J. Vilbert. My business address is 201 Mission Street, Suite 2800, San Francisco, CA 94105.
- 6 Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?
- 7 A. I am a Principal and the San Francisco Office Director for The Brattle Group.
- 9 Q. PLEASE DESCRIBE YOUR EDUCATIONAL QUALIFICATIONS AND PROFESSIONAL EXPERIENCE.
- 11 A. I received my Ph.D. in Financial Economics from the Wharton School of
- the University of Pennsylvania, an MBA from the University of Utah, an
- 13 M.S. from the Fletcher School of Law and Diplomacy, Tufts University,
- and a B.S. degree from the United States Air Force Academy. I joined
- The Brattle Group in 1994 after a career as an Air Force officer, where I
- served as a fighter pilot, intelligence officer, and professor of finance at the
- 17 United States Air Force Academy.
- 18 Q. PLEASE OUTLINE YOUR PROFESSIONAL EXPERIENCE.
- 19 A. I joined The Brattle Group in 1994 after my career as an Air Force officer.
- 20 Appendix A provides further details on my professional qualifications.
- 21 Q. WOULD YOU PLEASE DESCRIBE THE BRATTLE GROUP?
- 22 A. The Brattle Group is an economic consulting firm with offices in
- Washington DC, San Francisco, Cambridge, New York City, Toronto,
- 24 Madrid, Rome, and London. Our experts provide consulting and expert
- 25 testimony in economics, finance, and regulation to corporations, law firms,
- and governments around the world, including assisting regulated
- 27 companies in making strategic, investment, pricing, and financing
- decisions. Brattle experts work with firms to anticipate how regulators will
- 29 view the risk and value outcomes of different regulatory programs.

1	Brattle has pioneered the application of economic, finance, and
2	accounting theory and practice to matters in regulatory proceedings. Our
3	economic consultants publish leading texts on corporate finance and
4	frequently advise companies and government officials as well as testify
5	before regulatory agencies worldwide.

6 Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THIS COMMISSION?

7 A. No.

8 Q. ON WHOSE BEHALF ARE YOU TESTIFYING?

- 9 A. I am testifying on behalf of Ovation Acquisition I, L.L.C. ("OV1"), Ovation
 10 Acquisition II, L.L.C. ("OV2" and together with OV1, "Ovation") and Shary
 11 Holdings, L.L.C. ("Shary Holdings") (collectively the "Purchasers").
- 12 Q. ARE YOU OFFERING LEGAL OPINIONS IN YOUR TESTIMONY 13 BELOW?
- 14 A. No. Nothing in my report is intended to provide a legal opinion. My
 15 testimony and opinions are offered as an expert in financial and regulatory
 16 economics.

17 II. PURPOSE OF TESTIMONY AND OVERVIEW

18 Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS 19 PROCEEDING?

The purpose of my testimony is to respond to testimony concerning the 20 A. adequacy of OEDC liquidity, access to capital and financial risk with 21 regard to the proposed restructuring of Oncor Electric Delivery Company 22 I respond to testimony submitted by witnesses for 23 LLC ("Oncor"). Commission Staff, the Steering Committee of Cities ("Cities"), the Texas 24 Industrial Energy Consumers ("TIEC"), the Office of Public Utility Counsel 25 26 ("OPUC") and Gexa Energy, LP ("Gexa").

Q. DO YOU HAVE ANY GENERAL COMMENTS BEFORE YOU BEGIN YOUR REBUTTAL?

Yes. Many of the concerns raised in the intervenors' testimonies would also be issues for any regulated company irrespective of its structure. For example, financial market perturbations or extraordinary storm damage would affect Oncor regardless of its corporate structure. In my view, the focus in this proceeding should be on whether the Transaction structure itself adversely affects those concerns or increases the risk or costs to customers. In other words, is the proposed restructuring of Oncor likely to increase the total risk of Oncor?

In the discussion that follows, I assume that the relevant comparison is between the proposed restructuring and a traditional structure for Oncor but with the same combined level of debt at the parent company.

15 Q. PLEASE EXPLAIN WHAT YOU MEAN BY TOTAL RISK.

In finance theory, the total risk of an investment can be divided into the 16 Α. 17 portion that affects the cost of capital and the portion that does not. The portion that does not is called diversifiable risk. An investor can eliminate 18 19 diversifiable risk through holding the investment in a portfolio of investments. The undiversifiable risk, sometimes called market risk or 20 systematic risk, is the risk that affects the cost of capital. Credit rating 21 agencies are generally focused on total risk, whereas cost-of-capital 22 23 estimates are based upon market risk.

24 Q. DO YOU EXPECT THE RESTRUCTURING TO AFFECT THE SYSTEMATIC RISK OF ONCOR?

A. No. The systematic risk of the electric transmission and distribution assets of Oncor is not likely to be affected by the structure of the Transaction. However, many of the intervenors' concerns focus upon

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whether the total risk of Oncor has been adversely affected. Specifically, their concerns often center on whether the structure imposes risks that would not affect Oncor as much if it were structured as a C-corp.

4 Q. DO YOU EXPECT THE RESTRUCTURING TO AFFECT THE TOTAL RISK OF ONCOR?

A. No. As I discuss below, although various witnesses have raised a number of issues, Purchasers have implemented numerous mechanisms to deal with any potential increase in total risk from the restructuring.

9 Q. WILL THERE BE INCREMENTAL COSTS ASSOCIATED WITH THE 10 RESTRUCTURING THAT ARE NOT PRESENT IN A TRADITIONAL C-11 CORP STRUCTURE?

12 A. Yes. As several intervenors² have noted, there will be some incremental costs, but Purchasers have committed not to pass through to customers any of those costs.³ In fact, many of the intervenors' specific concerns seem to focus on whether that commitment is sufficiently specific. The Rebuttal Testimony of Ralph G. Goodlet, Jr. reaffirms the commitment that costs to customers will not increase due to the proposed restructuring including those identified by the intervenors.⁴

19 Q. WILL THE PROPOSED STRUCTURE INHIBIT THE COMMISSION'S ABILITY TO REGULATE ONCOR?

A. No. As explained by Mr. Goodlet, for regulatory purposes, Oncor AssetCo and Oncor Electric Delivery Company ("OEDC") will be treated as one entity, which means that Oncor can be treated as any other regulated electric distribution and transmission company in Texas. For example, there will be no need to estimate the cost of capital separately for Oncor

¹ See, e.g., Direct Testimony of Carol Szerszen at 6-7 (regarding whether investors will consider the proposed structure more risky); Direct Testimony of June M. Dively at 5-9.

² See, e.g., Dively Direct at 4.

³ Direct Testimony of Ralph G. Goodlet, Jr. at 8.

⁴ Rebuttal Testimony of Ralph G. Goodlet, Jr.

AssetCo and OEDC. The cost of service, including the cost of capital, will be determined as it is now. In fact, as Mr. Goodlet explains, the current employees of Oncor, the customers, or the Commission will see no change in how the utility operates.⁵ There will be financial transactions between and OEDC, but given Purchasers' commitments, those transactions themselves will not affect the revenue requirement or the quality of service to customers. Moreover, Purchasers propose to implement a separate "ring-fence" for both Oncor AssetCo and OEDC to insure that Oncor's regulated assets and its customers are protected.

10 Q. ARE YOU OFFERING AN OPINION ON THE ADEQUACY OF THE PROPOSED RING FENCES?

12 A. No. Professor Steven Schwarcz addressed the proposed ring-fences in
13 his direct testimony.⁶ Although the ring-fences are somewhat different
14 from those currently in place, he concludes that the proposal provides the
15 appropriate protection for Oncor under the Transaction.⁷ His rebuttal
16 testimony addresses the additional concerns raised by the intervenors in
17 this proceeding.⁸ The implication is the Transaction conditions evaluated
18 by the rating agencies are different now.

19 Q. IS THE FACT THAT THE LEASE PAYMENTS ARE EXPECTED TO BE 20 A LARGE PORTION OF OEDC'S REVENUES A CONCERN?

A. Absent the various commitments made by Purchasers, there would be potential concerns, but the provisions of the proposed leases address this issue. A portion of the lease payment represents interest expense on Oncor AssetCo's debt, and the interest expense is already fixed. Including it in the lease payment does not make it any more fixed. Up to

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⁵ Goodlet Direct at 15.

 $^{^{\}rm 6}$ Direct Testimony of Steven L. Schwarcz at 7.

⁷ Schwarcz Direct at 8.

⁸ Rebuttal Testimony of Steven L. Schwarcz.

20 percent of the lease payment is variable so if revenues are less than forecast, the lease payment is reduced. Moreover, the revenues for an electric distribution and transmission utility are expected to be relatively stable. As Mr. Wilks explains, this is particularly true for electric utilities in ERCOT. We will be unusual for normal variation in revenues to be an issue with regard to the ability of OEDC to make the lease payments. Only unusual events, such as a major storm, could be expected to cause an issue for OEDC.

Stricken pursuant to Order No. 14

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⁹ Exhibit DGW-2, Purchasers' Narrative Explanation and Current Projection of Lease Payments at 3 (Oct. 19, 2015).

¹⁰ Rebuttal Testimony of D. Greg Wilks.

¹¹ Direct Testimony of Craig R. Roach at 20.

Stricken pursuant to Order No. 14 _f

O&M or A&G costs increase prudently and are expected to stay at the new levels, it would be appropriate to seek a rate increase from the Commission because the costs of providing service have increased. This would be true whether Oncor was operating as a traditional C-corporation or restructured as proposed by Purchasers. Although the C-corporation could cut dividends to cover temporary liquidity requirements, it would normally seek a rate increase to address permanent changes in costs.

11 Q. WHY WOULD A C-CORPORATION BE RELUCTANT TO CUT 12 DIVIDENDS?

Although C-corporations do have the flexibility to reduce dividend 13 Α. payments, they are extremely reluctant to do so unless there is no other 14 choice. Investors know that dividend cuts are generally a last resort, so 15 the stock price of a company cutting dividends generally falls substantially. 16 This in turn makes raising new equity more costly. So, in the situation 17 envisioned by Dr. Roach, having OEDC borrow in the short term and seek 18 a rate increase to acknowledge the increased level of costs would be 19 preferable to cutting dividends even for a C-corporation. 20

Q. IS THE COST OF CAPITAL FOR THE RESTRUCTURED ONCOR LIKELY TO BE DIFFERENT?

23 A. Possibly, but whether it does change or not will not affect the revenue 24 requirement because the Commission will expect cost of capital analysts 25 to estimate the cost of capital using the standard models and appropriate 26 proxy groups. The underlying assumption of that approach is that the 27 important factor to consider is the risk of Oncor (as a combined entity) and 28 not the risk of Oncor AssetCo or OEDC separately. Nothing in the

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¹² Wilks Rebuttal.

proposed restructuring would be expected to affect the risk of the assets. Moreover, the ring-fence provisions are intended, in part, to protect the credit rating of Oncor AssetCo so that the cost of debt would not increase as a direct result of the proposed restructuring. Of course, future debt costs may increase with changes in interest rates in the economy.

The financial transactions between Oncor AssetCo and OEDC may affect their relative risk but not in a way that affects the revenue requirement. In particular, I expect the equity in Oncor AssetCo to be less risky, and the equity in OEDC to be more risky than for a C-corporation.

Stricken pursuant to Order No. 14

16 Q. WHAT DO YOU MEAN BY LIQUIDITY?

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17 A. In this instance, liquidity refers to the possibility that OEDC would have 18 insufficient cash flow to meet its short-term obligations even if it would 19 have sufficient funds in the long term. Absent sufficient liquidity, service 20 quality and reliability could be affected.

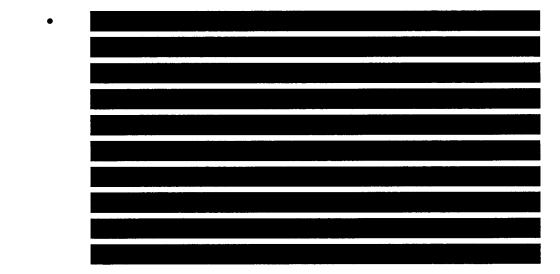
21 Q. PLEASE SUMMARIZE THIS SECTION OF YOUR TESTIMONY.

22 A. The Commission and intervenors can expect that the Commission will 23 regulate Oncor as a combined entity of Oncor AssetCo and OEDC as it 24 would regulate Oncor if it were structured as a traditional C-corporation.¹⁴ 25 Other than any incremental costs associated with the structure, which 26 Purchasers have committed not to pass through to customers, the

¹³ Wilks Rebuttal.

¹⁴ The regulated entity itself may be a limited liability company but within a C-corporation structure.

- 1 Commission would see no difference in regulating the restructured Oncor 2 compared to any other regulated utility in Texas.
- 3 III. COMPARISON TO 2007 TRANSACTION IS MISPLACED
- 4 Q. HOW IS THE COMPARISON TO THE 2007 TRANSACTION 5 MISPLACED?
- A. Dr. Roach's suggestion that the proposed Transaction bears the same risks as the 2008 Leverage Buyout¹⁵ is unfounded. The current Transaction is very different in risk profile and size from the 2007 transaction. The current Transaction is financed with substantially less debt and focuses on the smaller, regulated, and less risky segment of the original set of assets that was purchased in the 2007 transaction.
- 12 Q. PLEASE PROVIDE MORE DETAILS ON THE DIFFERENCE BETWEEN
 13 THE 2007 TRANSACTION AND THE CURRENT TRANSACTION
 14 PROPOSED BY THE PURCHASERS.
- 15 A. The difference can be summarized in the following ways:
 - The 2007 transaction was a leveraged buyout ("LBO") transaction that involved substantially more leverage than the current transaction.



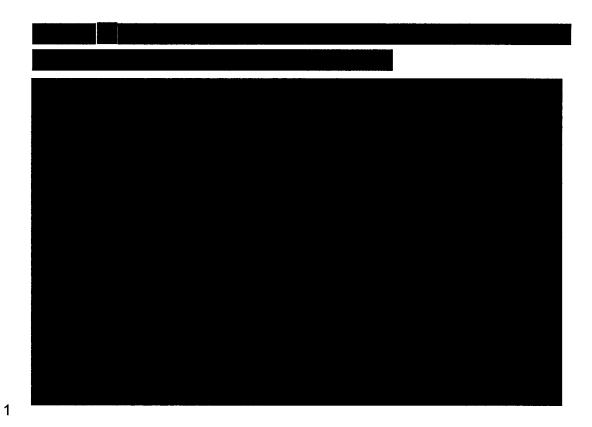
¹⁵ Roach Direct at 22.

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- The 2007 transaction involved different asset bases than the current Transaction. The 2007 LBO transaction acquired the entirety of EFH, the bulk of which consisted of businesses other than Oncor. Principally these were Luminant and TXU Energy ("TXU"). Luminant and TXU are larger and are the riskier, competitive components of EFH. Luminant and TXU are unregulated and provide electricity at competitive market prices.
- The 2007 transaction involved a view on the evolution of commodity prices by the private equity buyers that depended upon an increase in competitive electricity prices. The private equity buyers hedged their risks against a fall in wholesale electricity price through natural gas derivative contracts, all of which expired in 2014 and prompted the bankruptcy. Oncor does not face exposure to variation in energy prices in the way the previous transaction did.



Q. HOW DID THE 2007 TRANSACTION RESULT IN EFH'S BANKRUPTCY?

The 2007 LBO transaction was essentially a bet that wholesale electric prices would increase, but wholesale electricity prices did not increase as the private equity buyers had expected. Through Luminant and TXU, the private equity buyers were expecting to benefit from the spread on the electricity prices paid by customers (*i.e.*, the competitive market prices generally set by natural gas-fired power plants) and the cost of production for less expensive coal and nuclear power plants. However, demand for electricity declined in the years after 2008 because of the recession. In addition, new technology (*i.e.*, fracking) substantially lowered the cost of natural gas which reduced the cost of electricity from natural gas-fired generation. The result was that wholesale electricity prices declined in years following the 2007 LBO transaction. These events negatively affected the cash flows of EFH which was heavily levered and unable to

Α.

generate sufficient cash flow to service its debt. This failing performance ultimately led to the EFH bankruptcy. On April 29, 2014, EFH and the substantial majority of its direct and indirect subsidiaries (excluding the Oncor ring-fenced entities) filed voluntary petitions for relief under Chapter 11 of the U.S. Bankruptcy Code. 16

6 Q. HOW DOES THE EFH BANKRUPTCY IMPACT THE BUSINESS 7 OPERATION OF ONCOR?

A. Oncor is the regulated delivery segment of EFH, and while it is not directly affected by the commodity risk that resulted in the bankruptcy of EFH, it is affected by the fact that its majority owner is in bankruptcy. For example, Oncor has explained that management resources are diverted to monitoring bankruptcy court developments. Further, Oncor's assets currently are insulated by the ring-fence that protected Oncor during the bankruptcy.

15 Q. SEVERAL WITNESSES HAVE SUGGESTED THAT THERE WOULD BE 16 NO HARM IF ONCOR CONTINUED TO BE OWNED BY A MAJORITY 17 OWNER IN BANKRUPTCY. DO YOU AGREE?

A. No. Bankruptcy proceedings are costly. If the bankruptcy proceedings were to resume, the ongoing costs of the bankruptcy would continue to deplete EFH's value to its creditors. Moreover, the ultimate outcome would be uncertain for EFH and Oncor as well.

22 Q. ARE THESE RISK FACTORS PRESENT IN THE PROPOSED 23 TRANSACTION?

A. No, certainly not to the same degree because of the differences between the two transactions as discussed above. To summarize, the current proposed Transaction involved significantly less initial leverage, and OV1 continues to seek additional equity infusions to reduce its consolidated

¹⁶ Energy Future Holdings Corp. 2014 Form 10-K.

¹⁷ Response of Oncor Electric Delivery Company LLC to Steering Committee of Cities Served by Oncor's Second Request for Information, Response to Cities RFI 2-03 (Oct. 23, 2015).

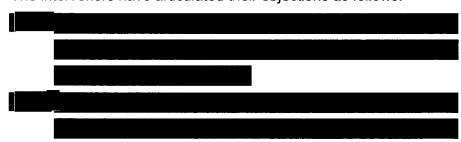
debt.¹⁸ The current Transaction involves a smaller, less risky, regulated electric transmission and distribution business. Most importantly, the current Transaction does not depend upon the change in wholesale electricity prices.

Separately, the proposed Transaction retains some of the benefits of the 2007 transaction. Specifically, the assets are protected by the proposed ring-fence conditions that, as Professor Schwarcz explains, are appropriate for the proposed transaction and in many ways are at least as protective as the existing ring-fence conditions.¹⁹

IV. ONCOR ASSETCO WILL BE INVESTMENT GRADE

- Q. PLEASE SUMMARIZE CONCERNS RAISED BY INTERVENERS ABOUT THE CREDIT IMPLICATIONS OF THE PROPOSED TRANSACTION.
- A. Various intervenors have objected to the proposed Transaction based on its perceived credit implications and associated consequences for operating performance and cost. In particular, intervenors have argued that the resulting entity should have an investment-grade debt rating and that the proposed Transaction will not support this.

The intervenors have articulated their objections as follows:



¹⁸ As noted in Purchasers' supplemental response to Staff RFI 1-1, Fidelity Management and Research Company and its affiliates have committed an additional \$500 million in equity which reduces the maximum debt at the Reorganized EFIH to \$4.3 billion to \$5 billion, depending on the results of the \$700 million Rights Offering to the Texas Competitive Energy Holdings 1st Lien Creditors.

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¹⁹ Schwarcz Direct at 6.

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7		 On the basis of the above, "OV1 would be regarded as a
8		below investment grade credit at the time it acquired
9		Oncor." ²¹
10		 The three consequences of OV1 being below investment
11		grade are "1) higher costs of debt and equity, 2) less access
12		to debt and equity capital markets, and 3) closer to financia
13		distress." ²²
14		 "A below investment grade parent company will likely resul
15		in the loss of the current investment grade bond rating for
16		Oncor utility operations."23
17 18	Q.	ARE THESE INTERVENOR CONCERNS ABOUT ADVERSE CREDIT IMPACT VALID?
19	A.	No, they are overstated because 1) they are based upon assumptions
20		made at the time that Purchasers requested an indicative rating, 2) they
21		selectively highlight certain assumptions made by Ovation and the rating
22		agencies in the August/September time frame, and 3)

²⁰ Exhibit TIEC 2-10 (HSPM) at 16; Rebuttal Testimony of D. Greg Wilks at Rebuttal Exhibit R-DGW-4 (HSPM) at 16.

²¹ Direct Testimony of Bruce H. Fairchild at 13.

²² Id. at 14.

²³ Direct Testimony of Michael P. Gorman at 3.

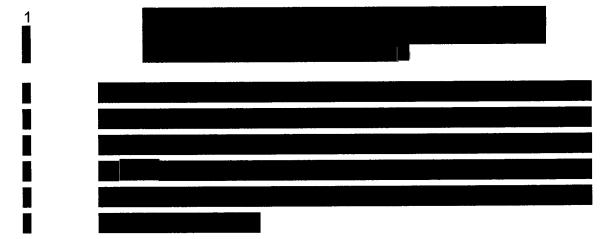
Q. IN WHAT SENSE WERE THESE CONCERNS OVERSTATED BASED ON PRIOR ASSUMPTIONS?

A. The impression was left that the consequences of a sub-investment grade rating, for OV1/EFIH, if it were imposed, would be severe. In particular, the intervenors suggest that Oncor AssetCo and Oncor ratepayers would be adversely affected.



²⁴ Exhibit TIEC 2-10 (HSPM) at 16; Wilks Rebuttal at Rebuttal Exhibit R-DGW-4 (HSPM) at 15.

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Meanwhile, the purported impact of OV1/EFIH on ratepayers is speculative and unsupported. As Mr. Fairchild notes, "higher costs of debt and equity at OV1 would not translate into higher rates for electric customers because Oncor's authorized rate of return would be based on the regulatory capital structure of OEDC and AssetCo. AssetCo's embedded cost of debt, and an electric industry return on equity."

16 Q WHAT HAS CHANGED IN OVATION'S PROPOSED STRUCTURING OF THE TRANSACTION?

A. Since the financial forecasts were reviewed by the rating agencies and intervenors, Ovation has received commitments for an additional \$500 million in equity capital.²⁸ These funds will be applied to reduce debt at OV1/EFIH.



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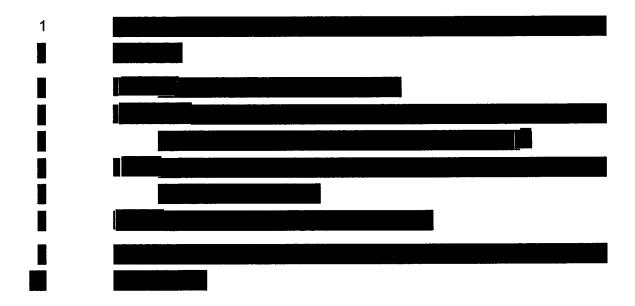


²⁵ Exhibit TIEC 2-10 (HSPM) at 16; Wilks Rebuttal at Rebuttal Exhibit R-DGW-4 (HSPM) at 6.

²⁶ Gorman Direct at 3.

²⁷ Fairchild Direct at 14.

²⁸ Supplemental Response of Purchasers to the Commission Staff's RFI 1-1, 1-3, 1-4, 1-6, 1-7, and 1-21, Second Supplemental Response to Staff 1-3 (Dec. 4, 2015).



V. OV1 HAS ADEQUATE ACCESS TO CAPITAL

12 Q. DO YOU BELIEVE THAT THE RESTRUCTURED ONCOR WILL HAVE SUFFICIENT ACCESS TO CAPITAL?

- 14 A. Yes. OV1 is unique in that it provides investors access to the cash flows
 15 solely derived from an electric distribution and transmission company. As
 16 a real estate investment trust ("REIT"), this means that OV1 will provide a
 17 relatively high and stable dividend yield.
- 18 Q. ARE THE INTERVENORS WRONG TO BE CONCERNED ABOUT OV1'S ACCESS TO CAPITAL?
- 20 A. No. In my opinion, this is the major distinguishing feature of the 21 restructured Oncor from its current situation. In the discussion below, I 22 compare the proposed REIT structure of OV1 to Oncor as it is traditionally 23 structured which I call a C-corporation even though Oncor itself is a limited 24 liability corporation, *i.e.*, an LLC.

²⁹ Fairchild Direct, Exhibit BHF-1 at 39.

Q. WHAT ARE THE INTERVENORS' SPECIFIC CONCERNS?

With regard to the access to capital, intervenors note that a REIT is required to distribute at least 90 percent of its taxable income to maintain its status as a REIT.³⁰ The practical implication of this fact is that OV1 will be unable to retain earnings to the same degree that a C-corporation can. They claim that this means that OV1 will be unable to fund capital expenditures ("capex") as much from internally-generated funds (*i.e.*, retained earnings and depreciation) as would a C-corporation. Instead, OV1 will be forced to return to the capital markets to issue new equity more often (probably every 12-18 months) than a comparable C-corporation. Even if issuing equity annually is not normally a problem, it represents a risk not present in a C-corporation because there may be circumstances in which OV1 could not issue equity, but the C-corporation could retain earnings or even cuts dividends to get the needed funds.

Q. ARE THESE CONCERNS VALID?

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Α.

These concerns are exaggerated for the following reasons: First, contrary to Ms. Dively testimony,³¹ most regulated companies pay dividends while simultaneously raising additional equity or debt, so OV1 would not be unusual in that regard. In particular, regulated companies that are structured as a C-corporation do not routinely cut dividends rather than issue new equity or debt. Second, it is unlikely that Oncor structured as a C-corporation could issue equity when OV1 could not. On the contrary, it is likely that OV1 can issue equity more easily than Oncor as a C-corporation. I discuss this point further below. Third, in most economic circumstances, corporations structured as a REIT have been able to

³⁰ See, e.g., Dively Direct at 33.

³¹ Dively Direct at 34.

access the capital markets.³² (I discuss the ability of REITs to issue equity in more detail below.) If economic conditions are so bad that a REIT could not issue equity, it is highly likely that there are even larger economic concerns. In other words, the economic conditions under which OV1 could not issue equity would be extreme and would adversely affect Oncor whether it was structured as a C-corporation or a REIT. Fourth, as noted above, cutting dividends is not a preferred solution for a C-corporation because doing so will cause the stock price to decline substantially. Cutting dividends is generally only done as a last resort.³³

10 Q. WHAT EVIDENCE DO YOU HAVE THAT REITS HAVE 11 SUCCESSFULLY ISSUED EQUITY EVEN IN POOR ECONOMIC 12 TIMES?

A. It is not unusual for utilities to access capital markets on a regular basis even during difficult capital market conditions. For example, from 2008 to 2010, both REITs and utilities issued substantial amounts of equity in spite of a severe economic recession.³⁴ During this period, 22 different utilities accessed the equity markets in follow-on offerings and raised approximately \$11.3 billion in follow-on equity, with an average deal size of approximately \$391 million.³⁵ Out of the 22 utilities, six issued equity in

 $^{^{32}}$ Of course, if the corporation is willing to dilute its current shareholders sufficiently, it can nearly always issue equity.

³³ See, e.g., Brealey, et al., Principles of Corporate Finance Chapter 16 (11th ed., McGraw-Hill Irwin 2014). Also, consider the effect on Kinder Morgan's stock after its announced a 75 percent dividend cut on December 8, 2015 even though the retained earnings was to be used to fund its purchase of a portion of the Natural Gas Pipeline of America. (See *ETF Daily News* (Dec. 16, 2015)).

³⁴ The 2008 financial crisis was the worst economic disaster since the Great Depression of 1929. This was despite aggressive efforts by the Federal Reserve and Treasury Department to prevent the U.S. banking system from collapsing. It led to the Great Recession where housing prices fell 31.8 percent, more than during the Depression. Two years after the recession ended, unemployment was still above 9 percent – and that's not counting discouraged workers who had given up looking for work and were no longer counted among the unemployed, from "2008 Financial Crisis; Causes, Costs and Could It Reoccur?." *About News* (updated Jun. 29, 2015).

³⁵ Statistics in this paragraph are from information provided by Morgan Stanley.

more than one year over the period. Additionally, during the period, one of the 22 utilities successfully completed an IPO in which it raised approximately \$90 million of capital. In comparison, 103 different REITs accessed the equity markets in follow-on offerings and raised a total of \$54.7 billion, with an average deal size of approximately \$280 million. Moreover, 34 of the 103 REITs issued equity in more than one year over the period. Additionally, during the period, 19 REITs successfully completed an IPO, which, in aggregate, raised approximately \$5.2 billion of capital. Based on transaction data from 2008 through 2010, REITs' access to equity market did not seem to be impaired during the recession; on the contrary, a larger number of REITs accessed the equity market than utilities during the recession. In total, REITs raised more capital through secondary equity offerings than utilities.

Rebuttal Exhibit R-MJV-1 at the end of my rebuttal provides additional information on the equity issuances during this period. Specifically, Rebuttal Exhibit R-MJV-1 shows the discount³⁶ for the follow-on offering (left hand scale), the average deal size for REITs compared to utilities over the period 2008 to 2011. It also shows the S&P 500 index over the period (on the right hand scale). Although the discount widened for REITs during the recession, the discount narrowed such that by 2011, it was equivalent to the discount on utility shares and had returned to its pre-crisis level.

Q. DOES OV1 HAVE ANY MEANS OF RAISING EQUITY OTHER THAN A FOLLOW-ON EQUITY OFFERING?

25 A. Yes. OV1 can use a Dividend Reinvestment Plan ("DRIP") which allows
 26 an investor to automatically reinvest any cash dividends in additional

³⁶ The offering discount is defined as the (offer price minus the market price on the day of the announcement) divided by the market price on the announcement day.

shares of stock at little to no cost. This is a voluntary program selected by individual investors.

Alternatively, OV1 could use an at-the-market ("ATM") offering which is a type of follow-on offering of stock utilized by publicly traded companies in order to raise capital over time. In an ATM offering, exchange-listed companies incrementally sell newly-issued shares into the secondary trading market through a designated broker-dealer at prevailing market prices. The broker-dealer sells the issuing company's shares in the open market and receives cash proceeds from the transaction. The broker-dealer then delivers the proceeds to the issuing company where the cash can be used for a variety of purposes. The issuing company is able to raise this kind of capital on an as-needed basis with the option to refrain from offering shares if the available prices on a particular day are unsatisfactory. ATM offerings can be started and stopped at any point, and they can also become more aggressive by selling more shares and raising more money when there is an opportunity in the market or additional need by the issuing company.

ATM financing strategies provide control on the timing and amount of capital raised. An at-the-market offering is generally less expensive and less complicated to execute because there is no need for road shows and other public relations events.

The first ATM offerings were completed in the early 1980s for utility companies looking to raise capital from time-to-time to meet their financial needs. Since then, at-the-market offerings have been used by large and small capitalization issuers in a wide variety of industries with significant growth occurring after the 2008 financial crisis.

27 Q. IS A CONSENT DIVIDEND THE SAME AS A DRIP PLAN?

A. Although the effect is similar, a consent dividend is not a DRIP. A consent dividend would be used by OV1 to reduce the need to pay out a full cash dividend. It would apply to all investors in OV1. Investors would receive

taxable income as if a cash dividend had been paid but the money is reinvested in OV1. The benefit to OV1 is that the consent dividend would enable it to maintain the required 90 percent payout of taxable income while retaining cash. Consent dividends could be used in combination with a cash dividend so that investors receive some cash to satisfy the income tax liability associated with the dividend payments, or alternatively investors could sell some shares to generate cash to pay taxes. OV1 would likely use a consent dividend very rarely if ever because one of the attractive features of a REIT structure to investors is stable dividend payments. Nevertheless, a consent dividend is a way for OV1 to retain cash if extreme economic circumstances preclude it from raising capital otherwise.

13 Q. IF OV1 WERE NOT INVESTMENT GRADE, COULD IT STILL ISSUE EQUITY?

Yes. According to the data from Morgan Stanley, REITs were able to issue equity even during the credit crisis from 2008 to 2010. The economic recession during that time was the worst since the Great Recession. During that period, ten non-investment grade REITs accessed the market and two of them issued in more than one year. Issuing equity as a non-investment grade credit is likely to be somewhat more expensive, but OV1 should be able to access the capital markets. In addition, the closer to an investment grade credit rating the issuer may be, the less expensive it will be to issue additional equity all else equal. Moreover, even if it were more expensive to issue equity, the cost of service will not be affected because the revenue requirement will be set based using standard cost of capital models and sample companies.

27 Q. WHY DO YOU SAY THAT OV1 MAY BE ABLE TO ISSUE EQUITY 28 MORE EASILY THAN IF IT WERE A C-CORPORATION?

29 A. Under the proposed restructuring, OV1's equity is likely to be less risky than its equity would be as a C-corporation in a non-regulated industry.

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Virtually all of OV1's assets and lease payments stem from regulated transmission and distribution assets, the risk profile for which is substantially lower than most C-corporation's. To a degree, OEDC is bearing a portion of Oncor's systematic risk through the leases. However, through the mechanism of lease supplements, renewals, Percentage Rent and other features, over time the economic returns of OV1 will reflect the underlying risk profile of the transmission and distribution assets that it owns. The combination of the regulated asset base and the lease structure means that there will be much less variation in OV1's net income than for most C-corporations. OV1 is likely to be seen as a relatively low risk investment with stable dividend payments even in challenging economic conditions.

13 Q. DOES THAT MEAN ITS COST OF CAPITAL WILL BE REDUCED?

Possibly. Financial innovation seeks to satisfy clienteles with assets that provide a claim on cash flows not previously available. While it is true that investors have long been able to purchase shares of regulated utilities, they have not had easy access to shares devoted solely to regulated electric transmission and distribution as will the shares of OV1. Moreover, even if there are C-corporations with nearly all of their assets devoted to regulated electric transmission and distribution, those corporations are likely to have more variability in net income than OV1. The financial structure and relationship between Oncor AssetCo and OEDC make Oncor AssetCo's expected cash flow more stable than a traditional C-corporation structure. This means that OV1's equity will be a relatively low risk, high yield investment making it attractive to investors seeking those characteristics.³⁷ Whether there is an unsatisfied clientele sufficiently large with regard to this new type of investment is an empirical question

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³⁷ Satisfying investors with those characteristics is one reason that regulated utilities frequently pay dividends and simultaneously raise new equity.

that cannot now be answered definitively at this time.³⁸ If there is a large, unsatisfied clientele, OV1 will create value and have a lower cost of capital than a traditional C-corporation. In the current low interest rate environment, investments with relatively low risk and relatively high yield are in high demand.³⁹

6 Q. HOW HAVE REITS PERFORMED THIS YEAR?

7 A. REITs have performed poorly in 2015 compared to their performance in 2014.⁴⁰ However, Zack's attributes the lackluster performance to uncertainty associated with the potential for interest increase by the Fed, but believes that the outlook for REITs remains favorable.

11 Q. WHAT IF THE COST OF EQUITY CAPITAL IS NOT REDUCED?

12 A. If the cost of equity is not reduced or even if it were increased, it will not
13 affect the revenue requirement for customers because the cost of equity
14 will be estimated in the standard manner as if Oncor were a traditional C15 corporation.

16 Q. DO YOU BELIEVE THAT OV1 CAN RAISE CAPITAL IN ANY ECONOMIC ENVIRONMENT?

18 A. No, but there is no investment that can currently guarantee to be able to raise capital no matter the economic conditions with the possible

³⁸ The term "clientele" refers to a set of investors seeking a particular pattern of cash flows in different states of the economy. If there is a pattern investors cannot currently chose, then offering a security with the desired characteristics will create value.

³⁹ "Retirement strategies with low risk, high return," *CNN Money* (Sept. 4, 2015) (suggests that such investments are an oxymoron, but investments like OV1 are likely to be closer to this ideal than most).

⁴⁰ The total return from the FTSE NAREIT All REIT Index decreased 1.45 percent as of Oct 5, 2015 as against a 27.15 percent positive return in 2014, *REIT Industry Stock Outlook* (Oct. 9, 2015). See http://www.zacks.com/commentary/58811/reit-industry-stock-outlook. See also The FTSE NAREIT All REITs Index is a market capitalization-weighted index that includes all tax-qualified real estate investment trusts (REITs) that are listed on the New York Stock Exchange, the American Stock Exchange or the NASDAQ National Market List.

- exception of U.S. government debt. However, I believe that OV1 may be able to raise capital more easily than a traditional C-corporation.
- 3 Q. PLEASE EXPLAIN HOW OV1 COULD HAVE ACCESS TO CAPITAL MARKETS ON BETTER TERMS THAN A COMPARABLE C-CORPORATION.
- 6 Α. Investors know that OV1 has an incentive to distribute at least 90 percent 7 of its taxable income so as to maintain its status as a REIT. A C-8 corporation has the option of reducing its dividend to retain earnings. The 9 result is that OV1 will be viewed as providing a more reliable and 10 consistent dividend yield than a traditional C-corporation. However, as 11 noted above, REITs like OV1 also have the legal ability to offset 80 12 percent of their distribution requirements through non-cash consent 13 dividends, though in practice this feature would likely be used only in truly 14 exceptional circumstances.
- 15 Q. ISN'T THE FACT THAT A C-CORPORATION CAN RETAIN EARNINGS, 16 A BENEFIT RELATIVE TO A REIT FOR CAPITAL ACCESS 17 PURPOSES?
- 18 A. Yes and no. It is a benefit in that a C-corporation does not have to issue
 19 new equity as frequently as a REIT which can retain at most 10 percent of
 20 its taxable income while maintaining its status as a REIT. On the other
 21 hand, the higher and relatively more stable dividend payments make OV1
 22 more desirable for those investors seeking current income. In particular, it
 23 is the ability of the C-corporation to reduce dividends that makes OV1 less
 24 risky and more desirable.
- 25 Q. WHAT ABOUT AN ENVIRONMENT LIKE 2008-2009 WHEN THERE 26 WAS LITTLE TO NO ACCESS TO CAPITAL MARKETS?
- A. If we return to such an environment, it will not matter much whether there is a REIT structure in place or not. Many companies will be shut out of the capital markets. As noted above, OV1 may actually have an advantage in such a market (if any company can access capital markets) because it promises to distribute income when other companies are cutting dividends

to retain earnings. Companies that can be depended upon to distribute income during hard economic times are highly desirable during such times. It is also likely that the need for capital investment will be substantially curtailed during such extreme economic times because demand for electricity is likely to be much lower.

6 Q. ARE YOU SAYING THAT THERE IS NO ADVANTAGE TO THE 7 ABILITY TO RETAIN EARNINGS?

8 No, of course not. The ability to retain earnings reduces the frequency Α. 9 with which a company must issue new equity. Issuing new equity is 10 expensive due in part because of the fees associated with an equity issuance particularly for issuances of small dollar magnitude. However, 11 12 any extra costs associated with OV1's need to issue equity more frequently will not be passed on to customers. Moreover, the potential 13 enhanced desirability of the OV1 type of investment may offset any 14 15 additional issuance costs.

16 Q. ARE THERE CIRCUMSTANCES IN WHICH ONCOR COULD ACCESS 17 CAPITAL AS A C-CORPORATION BUT NOT AS A REIT?

A. There are two aspects to this question. First, I doubt that there would be economic conditions that OV1 could not access capital when Oncor as a C-corporation could issue new equity. If Oncor as a C-corporation could issue equity, it is highly likely that OV1 could as well. Second, retaining earnings is less costly than issuing new equity for OV1, but under the proposed restructuring, OV1 is highly likely to be able to access the capital markets. The REIT structure provides OV1 some advantages that Oncor as a C-corporation would not have. Specifically, OV1's equity is marginally lower risk and will provide a more stable dividend than if structured as C-corporation. In addition, OV1 would have more cash flow to distribute and thus be more valuable than the equity of Oncor as a C-corporation. (Keep in mind that I am comparing Oncor with a C-

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1 corporation structure to Oncor with a REIT structure. In particular, this 2 means that the revenue requirement under either structure is the same.)

3 Q. IF OV1 HAD A NON-INVESTMENT GRADE CREDIT RATING, WOULD THAT LIMIT ITS ACCESS TO CAPITAL?

Access to capital is always easier if the company is investment grade, but as noted above, even non-investment grade REITs were able to access the capital markets during the credit crisis. Moreover, the Purchasers have committed to reducing the debt at OV1's level to \$3.5 billion with the objective of achieving an investment grade credit rating if OV1 were not initially judged to be investment grade. As noted above, the recent announcement of a further reduction in debt at the OV1 level by \$500 million increases the possibility that OV1 will begin with an investment grade credit rating. On November 12, 2015, Fidelity settled its claims against EFH and committed \$500 million of equity to the Transaction. Purchasers updated its financial statements and the financial models provided in response to Staff's 1st RFI to reflect this additional \$500 million of equity.

VI. CONCLUSION

19 Q. WOULD YOU PLEASE SUMMARIZE YOUR REBUTTAL?

- 20 A. Yes. The main points of my rebuttal are as follows:
 - 1. Although the structure of Oncor will be changed, the Commission will not see any substantial difference in the way Oncor is regulated. In particular, the cost of equity can be estimated as if there were no change in the structure of Oncor.
 - As noted in the rebuttal testimony of Mr. Wilks, OEDC will have sufficient liquidity to be able to weather any reasonably foreseeable conditions.

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- AssetCo will have an investment grade credit rating and will be
 protected by ring-fence provisions designed to protect AssetCo and customers.
 - The Purchasers have committed to protect customers fully against paying for any costs associated with the difference in the proposed structure.
- Although OV1 as a REIT will not be able to retain earnings as a C-corporation can, it will have adequate access to capital to fund AssetCo's capex requirements.

10 Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?

11 A. Yes, it does.

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STATE OF CALIFORNIA § COUNTY OF San Funds \$1.0

BEFORE ME, the undersigned authority, on this day personally appeared Michael Vilbert who, having been placed under oath by me, did depose as follows:

My name is Michael Vilbert. I am of legal age and a resident of the State of California. The foregoing rebuttal testimony offered by me is true and correct, and the opinions stated therein are, to the best of my knowledge and belief, accurate, true and correct.

Michael Vilbert

Subscribed and sworn to before Me by the said _______ this ______ this _______ this _______ this _______ this _______ this ______ this _______ this ______ this _____ this ______ this _____ this ______ this _____ this ______ this _____ this ______ this ______ this ______ this ______ this ______ this ______ this _______ this ______ this _____ this ______ this _______ this _______ this ______ this _______ this _______ this _______ this _______ this _______ this ______ this _______ this _______ this _______ this _______ this _______ this ______ this _______ this _______ this _______ this _______ this ______ this ______ this _______ this ______ this ______ this _

CALIFORNIA JURAT WITH AFFIANT STATEMENT GOVERNMENT CODE § 8202 See Attached Document (Notary to cross out lines 1-6 below) See Statement Below (Lines 1-6 to be completed only by document signer[s], not Notary) Signature of Document Signer No. 1 Signature of Document Signer No. 2 (if any) A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document. State of California Subscribed and sworn to (or affirmed) before me County of SAN FUNCUSCO on this 18 day of Dellmber, 20 15.

by Date Month Year SHERRY VALDEZ Commission # 2102903 (and (2) Notary Public - California San Francisco County y Comm. Expires Mar 13, 2019 proved to me on the basis of satisfactory evidence to be the person(s) who appeared before me. Signature Signature of Notary Public Seal Place Notary Seal Above OPTIONAL Though this section is optional, completing this information can deter alteration of the document or fraudulent reattachment of this form to an unintended document. **Description of Attached Document** Title or Type of Document: __ Document Date: _____ Number of Pages: _ Signer(s) Other Than Named Above:

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APPENDIX A:

QUALIFICATIONS OF MICHAEL J. VILBERT

Dr. Michael J. Vilbert is Office Director of The Brattle Group's San Francisco office and has 20 years of experience as an economic consultant. He is an expert in cost of capital, financial planning and valuation who has advised clients on these matters in the context of a wide variety of investment and regulatory decisions. In the area of regulatory economics, he has testified or submitted testimony on the cost of capital for regulated companies in the water, electric, natural gas and petroleum industries in the U.S. and Canada. His testimony has addressed the effect of regulatory policies such as decoupling or must-run generation on a regulated company's cost of capital and the appropriate way to estimate the cost of capital for companies organized as Master Limited Partnerships. He analyzed issues associated with situations imposing asymmetric risk on utilities, the prudence of purchased power contracts, the economics of energy conservation programs, the appropriate incentives for investment in electric transmission assets and the effect of long-term purchased power agreements on the financial risk of a company. He has served as a neutral arbitrator in a contract dispute and analyzed the effectiveness of a company's electric power supply auction. He has also estimated economic damages and analyzed the business purpose and economic substance of tax related transactions, valued assets in arbitration for purchase at the end of the contract, estimated the stranded costs of resulting from the deregulation of electric generation and from the municipalization of an electric utility's distribution assets and addressed the appropriate regulatory accounting for depreciation and goodwill.

He received his Ph.D. in Financial Economics from the Wharton School of the University of Pennsylvania, an MBA from the University of Utah, an M.S. from the Fletcher School of Law and Diplomacy, Tufts University, and a B.S. degree from the United States Air Force Academy. He joined The Brattle Group in 1994 after a career as an Air Force officer, where he served as a fighter pilot, intelligence officer, and professor of finance at the Air Force Academy.

REPRESENTATIVE CONSULTING EXPERIENCE

- Dr. Vilbert served as the consulting expert in several cases for the U.S. Department of Justice and the Internal Revenue Service regarding the business purpose and economic substance of a series of tax related transactions. These projects required the analysis of a complex series of financial transactions including the review of voluminous documentary evidence and required expertise in financial theory, financial market as well as accounting and financial statement analysis.
- In a securities fraud case, Dr. Vilbert designed and created a model to value the private

placement stock of a drug store chain as if there had been full disclosure of the actual financial condition of the firm. He analyzed key financial data and security analysts' reports regarding the future of the industry in order to recreate pro forma balance sheet and income statements under a variety of scenarios designed to establish the value of the firm.

- For pharmaceutical companies rebutting price-fixing claims in antitrust litigation, Dr. Vilbert was a member of a team that prepared a comprehensive analysis of industry profitability. The analysis replicated, tested and critiqued the major recent analyses of drug costs, risks and returns. The analyses helped develop expert witness testimony to rebut allegations of excess profits.
- For an independent electric power producer, Dr. Vilbert created a model that analyzed the reasonableness of rates and costs filed by a natural gas pipeline. The model not only duplicated the pipeline's rates, but it also allowed simulation of a variety of "what if" scenarios associated with cost recovery under alternative time patterns and joint cost allocations. Results of the analysis were adopted by the intervenor group for negotiation with the pipeline.
- For the CFO of an electric utility, Dr. Vilbert developed the valuation model used to support a stranded cost estimation filing. The case involved a conflict between two utilities over the responsibility for out-of-market costs associated with a power purchase contract between them. In addition, he advised and analyzed cost recovery mechanisms that would allow full recovery of the stranded costs while providing a rate reduction for the company's rate payers.
- ◆ Dr. Vilbert has testified as well as assisted in the preparation of testimony and the development of estimation models in numerous cost-of-capital cases for natural gas pipeline, water utility and electric utility clients before the Federal Energy Regulatory Commission ("FERC") and state regulatory commissions. These have spanned standard estimation techniques (e.g., Discounted Cash Flow and Risk Positioning models). He has also developed and applied more advanced models specific to the industries or lines of business in question, e.g., based on the structure and risk characteristics of cash flows, or based on multi-factor models that better characterize regulated industries.
- Dr. Vilbert has valued several large, residual oil-fired generating stations to evaluate the possible conversion to natural gas or other fuels. In these analyses, the expected pre- and post-conversion station values were computed using a range of market electricity and fuel cost conditions.
- For a major western electric utility, Dr. Vilbert helped prepare testimony that analyzed the prudence of QF contract enforcement. The testimony demonstrated that the utility had not been compensated in its allowed cost of capital for major disallowances stemming from QF contract management.
- Dr. Vilbert analyzed the economic need for a major natural gas pipeline expansion to the

Midwest. This involved evaluating forecasts of natural gas use in various regions of the United States and the effect of additional supplies on the pattern of natural gas pipeline use. The analysis was used to justify the expansion before the FERC and the National Energy Board of Canada.

- ♦ For a Public Utility Commission in the Northeast, Dr. Vilbert analyzed the auction of an electric utility's purchase power agreements to determine whether the outcome of the auction was in the ratepayers' interest. The work involved the analysis of the auction procedures as well as the benefits to ratepayers of transferring risk of the PPA payments to the buyer.
- ◆ Dr. Vilbert led a team tasked to determine whether bridge tolls were "just and reasonable" for a non-profit port authority. Determination of the cost of service for the authority required estimation of the value of the authority's assets using the trended original cost methodology as well as evaluation of the operations and maintenance budgets. Investment costs, bridge traffic information and inflation indices covering a 75 year period were utilized to estimate the value of four bridges and a passenger transit line valued in excess of \$1 billion.
- ◆ Dr. Vilbert helped a recently privatized railroad in Brazil develop an estimate of its revenue requirements, including a determination of the railroad's cost of capital. He also helped evaluate alternative rate structures designed to provide economic incentives to shippers as well as to the railroad for improved service. This involved the explanation and analysis of the contribution margin of numerous shipper products, improved cost analysis and evaluation of bottlenecks in the system.
- ♦ For a utility in the Southeast, Dr. Vilbert quantified the company's stranded costs under several legislative electric restructuring scenarios. This involved the evaluation of all of the company's fossil and nuclear generating units, its contracts with Qualifying Facilities and the prudence of those QF contracts. He provided analysis concerning the impact of securitizing the company's stranded costs as a means of reducing the cost to the ratepayers and several alternative designs for recovering stranded costs.
- ♦ For a recently privatized electric utility in Australia, Dr. Vilbert evaluated the proposed regulatory scheme of the Australian Competition and Consumer Commission for the company's electric transmission system. The evaluation highlighted the elements of the proposed regulation which would impose uncompensated asymmetric risks on the company and the need to either eliminate the asymmetry in risk or provide additional compensation so that the company could expect to earn its cost of capital.
- For an electric utility in the Southwest, Dr. Vilbert helped design and create a model to estimate the stranded costs of the company's portfolio of Qualifying Facilities and Power Purchase contracts. This exercise was complicated by the many variations in the provisions of the contracts that required modeling in order to capture the effect of changes in either the performance of the plants or in the estimated market price of electricity.

- Dr. Vilbert helped prepare the testimony responding to a FERC request for further comments on the appropriate return on equity for electric transmission facilities. In addition, Dr. Vilbert was a member of the team that made a presentation to the FERC staff on the expected risks of the unbundled electric transmission line of business.
- ◆ Dr. Vilbert and Mr. Frank C. Graves, also of The Brattle Group, prepared testimony evaluating an innovative Canadian stranded cost recovery procedure involving the auctioning of the output of the province's electric generation plants instead of the plants themselves. The evaluation required the analysis of the terms and conditions of the long-term contracts specifying the revenue requirements of the plants for their entire forecasted remaining economic life and required an estimate of the cost of capital for the plant owners under this new stranded cost recovery concept.
- Dr. Vilbert served as the neutral arbitrator for the valuation of a petroleum products tanker. The valuation required analysis of the Jones Act tanker market and the supply and demand balance of the available U.S. constructed tanker fleet.
- Dr. Vilbert evaluated the appropriate "bareboat" charter rate for an oil drilling platform for the renewal period following the end of a long-term lease. The evaluation required analysis of the market for oil drilling platforms around the world including trends in construction and labor costs and the demand for platforms in varying geographical environments.
- ◆ Dr. Vilbert and Dr. Villadsen, also of The Brattle Group, evaluated the offer to purchase the assets of Pentex Alaska Natural Gas Company, LLC on behalf of the Western Finance Group for presentation to the Board of the Alaska Industrial Development and Export Authority. The report compared the proposed purchase price with selected trading and transaction multiples of comparable companies.

PRESENTATIONS

"Utility Distribution Cost of Capital," EEI Electric Rates Advanced Course, Bloomington, IN, 2002, 2003.

"Issues for Cost of Capital Estimation," with Bente Villadsen, Edison Electric Institute Cost of Capital Conference, Chicago, IL, February 2004.

"Not Your Father's Rate of Return Methodology," *Utility Commissioners/Wall Street Dialogue*, NY, May 2004.

"Utility Distribution Cost of Capital," *EEI Electric Rates Advanced Course*, Madison, WI, July 2004.

"Cost of Capital Estimation: Issues and Answers," *MidAmerican Regulatory Finance Conference*, Des Moines, IA, April 7, 2005.

"Cost of Capital - Explaining to the Commission - Different ROEs for Different Parts of the Business," *EEI Economic Regulation & Competition Analysts Meeting*, May 2, 2005.

"Current Issues in Cost of Capital," with Bente Villadsen, *EEI Electric Rates Advanced Course*, Madison, WI, 2005.

"Current Issues in Estimating the Cost of Capital," *EEI Electric Rates Advanced Course*, Madison, WI, 2006, 2007, 2008, 2009, 2010 and 2011.

"Revisiting the Development of Proxy Groups and Relative Risk Analysis," Society of Utility and Regulatory Financial Analysts: 39th Financial Forum, April 2007.

"Current Issues in Explaining the Cost of Capital to Utility Commissions" Cost of Capital Seminar, Philadelphia, PA, 2008.

"Impact of the Ongoing Economic Crisis on the Cost of Capital of the U.S. Utility Sector", New York Public Service Commission, Albany, NY, April 20, 2009.

"Impact of the Ongoing Economic Crisis on the Cost of Capital of the U.S. Utility Sector", National Association of Water Companies: New York Chapter, Albany, NY, May 21, 2009.

"Introduction to Retail Rates," presented to California Water Services Company, 18-19 November 2010.

"Point – Counterpoint: The Regulatory Compact and Pipeline Competition," with (Jonathan Lesser, Continental Economics), Energy Bar Association, Western Meeting, February 22, 2013

"An Empirical Study of the Impact of Decoupling on the Cost of Capital," Center for Research in Regulated Industries, Shawnee on Delaware, PA, May 17, 2013.

"The Cost of Capital for Alabama Power Company," Public Service Commission public meeting, July 17, 2013.

ARTICLES

"Flaws in the Proposed IRS Rule to Reinstate Amortization of Deferred Tax Balances Associated with Generation Assets Reorganized in Industry Restructuring," by Frank C. Graves and Michael J. Vilbert, white paper for *Edison Electric Institute* (EEI) to the IRS, July 25, 2003.

"The Effect of Debt on the Cost of Equity in a Regulatory Setting," by A. Lawrence Kolbe, Michael J. Vilbert, Bente Villadsen and The Brattle Group, *Edison Electric Institute*, April 2005.

"Measuring Return on Equity Correctly: Why current estimation models set allowed ROE too low," by A. Lawrence Kolbe, Michael J. Vilbert and Bente Villadsen, *Public Utilities Fortnightly*, August 2005.

"Understanding Debt Imputation Issues," by Michael J. Vilbert, Bente Villadsen and Joseph B. Wharton, *Edison Electric Institute*, August 2008.

"Review of Regulatory Cost of Capital Methodologies," (with Bente Villadsen and Matthew Aharonian), Canadian Transportation Agency, September 2010.

"The Impact of Decoupling on the Cost of Capital – An Empirical Study," Joseph B. Wharton, Michael J. Vilbert, Richard E. Goldberg, and Toby Brown, Discussion Paper, *The Brattle Group*, March 2011.

"Economic Impact on City of Portland of Allocation of Remediation Costs of Portland Harbor Superfund Site," with Professor David Sunding, March 2012.

"Survey of Cost of Capital Practices in Canada," (with Bente Villadsen and Toby Brown), prepared for British Columbia Utilities Commission, May 2012.

"Estimating the Cost of Equity for Regulated Companies," (with P.R. Carpenter, Bente Villadsen, T. Brown, and P. Kumar), prepared for the Australian Pipeline Industry Association and filed with the Australian Energy Regulator and the Economic Regulation Authority, Western Australia, February 2013.

"The Impact of Revenue Decoupling on the Cost of Capital for Electric Utilities: An Empirical Investigation," prepared for The Energy Foundation by Michael J. Vilbert, Joseph B. Wharton, Charles Gibbons, Melanie Rosenberg, and Yang Wei Neo, March 20, 2104.

TESTIMONY

Direct and rebuttal testimony before the Alberta Energy and Utilities Board on behalf of TransAlta Utilities Corporation in the matter of an application for approval of its 1999 and 2000 generation tariff, transmission tariff, and distribution revenue requirement, Docket U99099, October 1998.

Direct testimony before the Federal Energy Regulatory Commission on behalf of Central Maine Power in Docket No. ER00-982-000, December 1999.

Direct testimony before the Alberta Energy and Utilities Board on behalf of TransAlta Utilities Corporation for approval of its 2001 transmission tariff, May 2000.

Direct testimony before the Federal Energy Regulatory Commission on behalf of Mississippi River Transmission Corporation in Docket No. RP01-292-000, March 2001.

Written evidence, rebuttal, reply and further reply before the National Energy Board in the matter of an application by TransCanada PipeLines Limited for orders pursuant to Part I and Part IV of the *National Energy Board Act*, Order AO-1-RH-4-2001, May 2001, Nov. 2001, Feb. 2002.

Written evidence before the Public Utility Board on behalf of Newfoundland & Labrador Hydro - Rate Hearings, October 2001, Order No. P.U.7 (2002-2003), dated June 2002.

Direct testimony (with William Lindsay) before the Federal Energy Regulatory Commission on behalf of DTE East China, LLC in Docket No. ER02-1599-000, April 2002.

Direct and rebuttal reports before the Arbitration Panel in the arbitration of stranded costs for the City of Casselberry, FL, Case No. 00-CA-1107-16-L, July 2002.

Direct reports before the Arbitration Board for Petroleum products trade in the Arbitration of the Military Sealift Command vs. Household Commercial Financial Services, fair value of sale of the Darnell, October 2002.

Direct testimony and hearing before the Arbitration Panel in the arbitration of stranded costs for the City of Winter Park, FL, In the Circuit Court of the Ninth Judicial Circuit in and for Orange County, FL, Case No. C1-01-4558-39, December 2002.

Direct testimony before the Federal Energy Regulatory Commission on behalf of Florida Power Corporation, dba Progress Energy Florida, Inc. in Docket No. SC03-1-000, March 2003.

Direct report before the Arbitration Panel in the arbitration of stranded costs for the Town of Belleair, FL, Case No. 000-6487-C1-007, April 2003.

Direct and rebuttal reports before the Alberta Energy and Utilities Board in the matter of the Alberta Energy and Utilities Board Act, R.S.A. 2000, c. A-17, and the Regulations under it; in the matter of the Gas Utilities Act, R.S.A. 2000, c. G-5, and the Regulations under it; in the matter of the Public Utilities Board Act, R.S.A. 2000, c. P-45, as amended, and the Regulations under it; and in the matter of Alberta Energy and Utilities Generic Cost of Capital Hearing, Application No. 1271597, July 2003, November 2003, Decision 2004-052, dated July 2004.

Written evidence before the National Energy Board in the matter of the National Energy Board Act, R.S.C. 1985, c. N-7, as amended, (Act) and the Regulations made under it; and in the matter of an application by TransCanada PipeLines Limited for orders pursuant to Part IV of the *National Energy Board Act*, for approval of Mainline Tolls for 2004, RH-2-2004, January 2004.

Direct and rebuttal testimony before the Public Service Commission of West Virginia, on Cost of Capital for West Virginia-American Water Company, Case No 04-0373-W-42T, May 2004.

Direct and rebuttal testimony before the Federal Energy Regulatory Commission on Energy Allocation of Debt Cost for Incremental Shipping Rates for Edison Mission Energy, Docket No. RP04-274-000, December 2004 and March 2005.

Direct testimony before the Arizona Corporation Commission, Cost of Capital for Paradise Valley Water Company, a subsidiary of Arizona-American Water Company, Docket No. WS-01303A-05, May 2005.

Written evidence before the Ontario Energy Board, Cost of Capital for Union Gas Limited, Inc., Docket No. EB-2005-0520, January 2006.

Direct and rebuttal testimony before the Pennsylvania Public Utility Commission, Return on Equity for Metropolitan Edison Company, Docket No. R-00061366 and Pennsylvania Electric Company, Docket No. R-00061367, April 2006 and August 2006.

Expert report in the United States Tax Court, Docket No. 21309-05, 34th Street Partners, DH Petersburg Investment, LLC and Mid-Atlantic Finance, Partners Other than the Tax Matters Partner, Petitioner, v. Commissioner of Internal Revenue, Respondent, July 28, 2006.

Direct and supplemental testimony before the Federal Energy Regulatory Commission, Docket No. ER06-427-003, on behalf of Mystic Development, LLC on the Cost of Capital for Mystic 8 and 9 Generating Plants Operating Under Reliability Must Run Contract, August 2006 and September 2006.

Direct testimony before the Federal Energy Regulatory Commission, Docket No. ER07-46-000, on behalf of Northwestern Corporation on the Cost of Capital for Transmission Assets, October 2006.

Direct and rebuttal testimony before the Tennessee Regulatory Authority, Case No. 06-00290, on behalf of Tennessee American Water Company, on the Cost of Capital, November, 2006 and April 2007.

Direct and rebuttal testimony before the Public Service Commission of Wisconsin, Docket No. 5-UR-103, on behalf of Wisconsin Energy Corporation, on the Cost of Capital for Wisconsin Electric Power Company and Wisconsin Gas LLC, May 2007 and October 2007.

Rebuttal testimony before the California Public Utilities Commission, Docket No. A. 07-01-036-39, on behalf of California-American Water Company, on the Cost of Capital, May 2007.

Direct testimony before the Public Utilities Commission of the State of South Dakota, Docket No. NG-07-013, on behalf of NorthWestern Corporation, on the Cost of Capital for NorthWestern Energy Company's natural gas operations in South Dakota, June 2007.

Direct, supplemental and rebuttal testimony before the Public Utilities Commission of Ohio, Case No. 07-551-EL-AIR, Case No. 07-552-EL-ATA, Case No. 07-553-EL-AAM, and Case No. 07-554-EL-UNC, on behalf of Ohio Edison Company, The Toledo Edison Company, and The Cleveland Electric Illuminating Company, on the cost of capital for the FirstEnergy Company's Ohio electric distribution utilities, June 2007, January 2008 and February 2008.

Direct testimony before the Public Service Commission of West Virginia, Case No. 07-0998-W-42T, on behalf of West Virginia American Water Company on cost of capital, July 2007.

Direct and rebuttal testimony before the State Corporation Commission of Virginia, Case No. PUE-2007-00066, on behalf of Virginia Electric and Power Company on the cost of capital for its southwest Virginia coal plant, July 2007 and December 2007.

Direct and Supplemental testimony before the Public Utilities Commission of Ohio, Case No. 07-829-GA-AIR, Case No. 07-830-GA-ALT, and Case No. 07-831-GA-AAM, on behalf of Dominion East Ohio Company, on the rate of return for Dominion East Ohio's natural gas distribution operations, September 2007 and June 2008.

Direct testimony before the Federal Energy Regulatory Commission, Docket No. ER08-92-000 to Docket No. ER08-92-003, on behalf of Virginia Electric and Power Company, on the Cost of Capital for Transmission Assets, October 2007.

Direct and rebuttal testimony before the California Public Utilities Commission, Docket No. A. 07-01-022, on behalf of California-American Water Company, on the Effect of a Water Revenue Adjustment Mechanism on the Cost of Capital, October 2007 and November 2007.

Written direct and reply evidence before the National Energy Board in the matter of the National Energy Board Act, R.S.C. 1985, c. N-7, as amended, and the Regulations made thereunder; and in the matter of an application by Trans Québec & Maritimes PipeLines Inc. ("TQM") for orders pursuant to Part I and Part IV of the *National Energy Board Act*, for determining the overall fair return on capital for tolls charged by TQM, December 2007 and September 2008, Decision RH-1-2008, dated March 2009.

Comments in support of The Interstate Natural Gas Association of America's Additional Initial Comments on the FERC's Proposed Policy Statement with regard to the Composition of Proxy Companies for Determining Gas and Oil Pipeline Return on Equity, Docket No. PL07-2-000, December, 2007.

Direct and rebuttal testimony on the Cost of Capital before the Tennessee Regulatory Authority, Case No. 08-00039, on behalf of Tennessee American Water Company, March and August 2008.

Post-Technical Conference Affidavit on behalf of The Interstate Natural Gas Association of America in response to the Reply Comments of the State of Alaska with regard the FERC's Proposed Policy Statement on to the Composition of Proxy Companies for Determining Gas and Oil Pipeline Return on Equity, Docket No. PL07-2-000, March, 2008

Direct and rebuttal testimony before the California Public Utilities Commission, Docket No. A.08-05-003, on behalf of California-American Water Company, concerning Cost of Capital, May 2008 and August 2008.

Rebuttal testimony on the financial risk of Purchased Power Agreements, before the Public Utilities Commission of the State of Colorado, Docket No. 07A-447E, in the matter of the

application of Public Service Company of Colorado for approval of its 2007 Colorado Resource Plan, June 2008.

Direct and rebuttal testimony before the Federal Energy Regulatory Commission, Docket No. RP08-426-000, on behalf of El Paso Natural Gas Company, on the Cost of Capital for Natural Gas Transmission Assets, June 2008 and August 2009.

Direct testimony before the Federal Energy Regulatory Commission, Docket No. ER08-1207-000, on behalf of Virginia Electric and Power Company, on the incentive Cost of Capital for investment in New Electric Transmission Assets, June 2008

Direct testimony before the Federal Energy Regulatory Commission, Docket No. ER08-1233-000, on behalf of Public Service Electric and Gas Company, on the Cost of Capital for Electric Transmission Assets, July 2008.

Direct and rebuttal testimony before the Public Service Commission of West Virginia, Case No. 08-0900-W-42t, on behalf of West Virginia-American Water Company concerning the Cost of Capital for Water Utility assets, July 2008 and November 2008.

Direct and rebuttal testimony before the Public Utilities Commission of Ohio, Case No. 08-935-EL-SSO, on behalf of Ohio Edison Company, The Toledo Edison Company, and The Cleveland Electric Illuminating Company, with regard to the test to determine Significantly Excessive Earnings within the context of Senate Bill No. 221, September 2008 and October 2008.

Direct testimony before the Federal Energy Regulatory Commission, Docket No. ER09-249-000, on behalf of Public Service Electric and Gas Company, on the incentive Cost of Capital for Mid-Atlantic Power Pathway Electric Transmission Assets, November 2008.

Direct and rebuttal testimony before the Public Service Commission of West Virginia, Case No. 08-1783-G-PC, on behalf of Dominion Hope Gas Company concerning the Cost of Capital for Gas Local Distribution Company assets, November 2008 and May 2009.

Written Evidence before the Alberta Utilities Commission in the matter of the Alberta Utilities Commission Act, S.A. 2007, c. A-37.2, as amended, and the regulations made thereunder; and IN THE MATTER OF the Gas Utilities Act, R.S.A. 2000, c. G-5, as amended, and the regulations made thereunder; and IN THE MATTER OF the Public Utilities Act, R.S.A. 2000, c. P-45, as amended, and the regulations made thereunder; and IN THE MATTER OF Alberta Utilities Commission 2009 Generic Cost of Capital Hearing, Application No. 1578571/Proceeding No. 85. 2009 Generic Cost of Capital Proceeding on behalf of NGTL, November 2008.

Written and Reply Evidence before the Alberta Utilities Commission in the matter of the Alberta Utilities Commission Act, S.A. 2007, c. A-37.2, as amended, and the regulations made thereunder; and IN THE MATTER OF the Gas Utilities Act, R.S.A. 2000, c. G-5, as amended, and the regulations made thereunder; and IN THE MATTER OF the Public Utilities Act, R.S.A. 2000, c. P-45, as amended, and the regulations made thereunder; and IN THE MATTER OF

Alberta Utilities Commission 2009 Generic Cost of Capital Hearing, Application No. 1578571/Proceeding No. 85. 2009 Generic Cost of Capital Proceeding on behalf of AltaGas Utilities Inc., November 2008 and May 2009.

Direct testimony before the Federal Energy Regulatory Commission, Docket No. ER09-548-000, on behalf of ITC Great Plains, LLC, on the Cost of Capital for Electric Transmission Assets, January 2009.

Direct testimony before the Federal Energy Regulatory Commission, Docket No. ER09-681-000, on behalf of Green Power Express, LLP, on the Cost of Capital for Electric Transmission Assets, February 2009.

Written evidence before the Régie de l'Énergie on behalf of Gaz Métro Limited Partnership, Cause Tarifaire 2010, R-3690-2009, on the Cost of Capital for natural gas transmission assets, May 2009.

Direct and rebuttal testimony before the Public Service Commission of Wisconsin, Docket No. 6680-UR-117, on behalf of Wisconsin Power and Light Company, on the cost of capital for electric and natural gas distribution assets, May 2009 and September 2009.

Direct and rebuttal testimony before the State of New Jersey Board of Public Utilities in the Matter of the Petition of Public Service Electric and Gas Company for Approval of an Increase in Electric and Gas Rates and for Changes in the Tariffs for Electric and Gas Service, B.P.U.N.J. No. 14 Electric and B.P.U.N.J No. 14 Gas Pursuant to N.J.S.A. 48:2-21 and N.J.S.A. 48:2-21.1 and for Approval of a Gas Weather Normalization Clause; a Pension Expense Tracker and for other Appropriate Relief BPU Docket No. GR09050422, June 2009 and December 2009.

Rebuttal testimony before the Florida Public Service Commission in re: Petition for Increase in Rates by Progress Energy Florida, Inc., Docket No. 090079-EI, August 2009.

Direct testimony before the Federal Energy Regulatory Commission, Docket No. ER10-159-000, on behalf of Public Service Electric and Gas Company, on the incentive Cost of Capital for the Branchburg-Roseland-Hudson 500 kV Line electric transmission project ("BRH Project"), October 2009.

Direct and Rebuttal Testimony before the California Public Utilities Commission regarding cost of service for San Joaquin Valley crude oil pipeline on behalf of Chevron Products Company, Docket Nos. A.08-09-024, C.08-03-021, C.09-02-007 and C.09-03-027, December 2009 and April 2010.

Direct testimony before the Federal Energy Regulatory Commission, Docket No. ER10-516-000, on behalf of South Caroline Gas and Electric Company, on the Cost of Capital for Electric Transmission Assets, December 2009.

Direct testimony before the Oklahoma Corporation Commission, Cause No. PUD 201000050, on behalf of Public Service Company of Oklahoma, regarding cost of service for a regulated electric utility, June 2010.

Direct testimony before the Michigan Public Service Commission, Case No. U-16400, on behalf of Michigan Consolidated Gas Company, regarding cost of service for natural gas distribution assets, July 15, 2010

Direct testimony before the Public Utilities Commission of Ohio, Case No. 10-1265-EL-UNC, In the Matter of the Determination of the Existence of Significantly Excessive Earnings for 2009 Under the Electric Security Plan of Ohio Edison Company, The Cleveland Electric Illuminating Company, and The Toledo Edison Company, September 2010.

Direct and rebuttal testimony before the Federal Energy Regulatory Commission, Docket No. RP10-1398-000, on behalf of El Paso Natural Gas Company, on the Cost of Capital for Natural Gas Transmission Assets, September 2010 and September 2011.

Direct and rebuttal testimony before the Michigan Public Service Commission, In the matter of the application of The Detroit Edison Company, for authority to increase its rates, amend its rate schedules and rules governing the distribution and supply of electric energy, and for miscellaneous accounting authority, Case No. U-16472, October 2010 and April 2011.

Direct testimony before the Federal Energy Regulatory Commission, Docket No. RP11-1566-000, on behalf Tennessee Gas Pipeline Company, on the Cost of Capital for Natural Gas Transmission Assets, November 2010.

Direct testimony before the Federal Energy Regulatory Commission, Docket No. ER11-013-000, on behalf of the Atlantic Wind Connection Companies, on the Cost of Capital and Cost of Capital incentive adders for Electric Transmission Assets, December 2010.

Direct and rebuttal testimony before the Public Utilities Commission of the State of California, Docket No. A.11-05-001, on behalf of California Water Service Company, on the Cost of Capital for Water Distribution Assets, April 2011 and September 2011.

Rebuttal testimony before the Public Utilities Commission of the State of California, Docket No. A.10-09-018, on behalf of California American Water Company, on Application of California American Water Company (U210W) for Authorization to Implement the Carmel River Reroute and San Clemente Dam Removal Project and to Recover the Costs Associated with the Project in Rates, June 2011.

Initial testimony before the Public Utilities Commission of Ohio, Case No. 11-4553-EL-UNC, In the Matter of the Determination of the Existence of Significantly Excessive Earnings for 2010 Under the Electric Security Plan of Ohio Edison Company, The Cleveland Electric Illuminating Company, and The Toledo Edison Company, July 2011.

Direct testimony before the Federal Energy Regulatory Commission, Docket No. PA10-13-000, on behalf of ITC Holdings Corp. in response to FERC Staff, Office of Enforcement, Division of Audits, Draft Report on the appropriate accounting for goodwill for the acquisition of ITC Midwest assets from Interstate Power and Light Company, July 2011.

Written direct and reply evidence before the National Energy Board in the matter of the National Energy Board Act, R.S.C. 1985, c. N-7, as amended, and the Regulations made thereunder; and in the matter of an application by TransCanada PipeLines Limited for orders pursuant to Part I and Part IV of the *National Energy Board Act*, for determining the overall fair return on capital in the business and services restructuring and Mainline 2012 – 2013 toll application, RH-003-2011, September 2011 and May 2012.

Report before the Arbitrator on behalf of Canadian National Railway Company in the matter of a Submission by Tolko Marketing and Sales LTD for Final Offer Arbitration of the Freight Rates and Conditions Associated with Respect to the Movement of Lumber by Canadian National Railway Company from High Level, Alberta to Various Destinations in the Vancouver, British Columbia Area, October, 2011.

Rebuttal Evidence before the National Energy Board in the matter of AltaGas Utilities Inc., 2010-2012 GRA Phase I, Application No. 1606694; Proceeding I.D. 904, October, 2011.

Direct testimony before the Federal Energy Regulatory Commission, Docket No. ER12-296-000, on behalf of Public Service Electric and Gas Company on the Cost of Capital and for Incentive Rate Treatment for the Northeast Grid Reliability Transmission Project, October 2011.

Rebuttal testimony before the Florida Public Service Commission, Docket No. 110138-EL, on behalf of Gulf Power, a Southern Company, on the method to adjust the return on equity for differences in financial risk, November 2011.

Direct testimony before the Federal Energy Regulatory Commission, Docket No. PA10-13-000, on behalf of ITC Holdings Corp. regarding a rehearing for FERC Staff, Office of Enforcement, Division of Audits, Report on the appropriate accounting for goodwill for the acquisition of ITC Midwest assets from Interstate Power and Light Company, February 2012.

Direct and rebuttal testimony before the Michigan Public Service Commission, Case No. U-16999, on behalf of Michigan Consolidated Gas Company, regarding cost of service for natural gas distribution assets, April 2012 and October 2012.

Deposition testimony in *Primex Farms, LLC, Plaintiff, v. Roll International Corporation, Westside Mutual Water Company, LLC, Paramount Farming Company, LLC, Defendants*, April 2012.

Deposition testimony in Tahoe City Public Utility District, Plaintiff vs. Case No. SCV 27283 Tahoe Park Water Company, Lake Forest Water Company, Defendants, May 2012.

Direct testimony before the Public Utilities Commission of Ohio, In the Matter of the Determination of the Existence of Significantly Excessive Earnings for 2011 Under the Electric Security Plan of Ohio Edison Company, The Cleveland Electric Illuminating Company, and The Toledo Edison Company, Case No. 12-1544-EL-UNC, May 2012.

Joint Rebuttal Testimony before the California Public Utility Commission on behalf of California American Water Company, regarding Application of California-American Water Company (U210W) for Authorization to increase its Revenues for Water Service, Application 10-07-007, and In the Matter of the Application of California-American Water Company (U210W) for an Order Authorizing and Imposing a Moratorium on New Water Service Connections in its Larkfield District, Application 11-09-016, August 2012.

Direct testimony and supporting exhibits on behalf of Transcontinental Gas Pipeline Company, LLC, before the Federal Energy Regulatory Commission, on the Cost of Capital for Interstate Natural Gas Pipeline assets, Docket No. RP12-993-000, August 2012.

Direct Testimony before the North Carolina Utilities Commission on behalf of Cardinal Pipeline Company LLC, regarding the cost of capital for an intrastate natural gas pipeline, Docket G-39, Sub 28, August 2012.

Rebuttal Testimony before the Public Utilities Commission of the State of California on behalf of Southern California Edison regarding Application 12-04-015 of Southern California Edison Company (U 338-E) For Authority to Establish Its Authorized Cost of Capital for Utility Operations for 2013 and to Reset the Annual Cost of Capital Adjustment Mechanism, August 2012.

Direct and Rebuttal testimony before the Public Utilities Commission of the State of Colorado on behalf of Rocky Mountain Natural Gas LLC regarding the cost of capital for an intrastate natural gas pipeline, Docket No. 13AL-143G, with Advice Letter No. 77, January 2013 and October 2013.

Expert Report, with A. Lawrence Kolbe and Bente Villadsen, on cost of equity, non-recovery of operating cost and asset retirement obligations on behalf of the behalf of oil pipeline in arbitration, April 2013.

Direct testimony before the Public Utilities Commission of Ohio in the Matter of the Determination of the Existence of Significantly Excessive Earnings for 2012 Under the Electric Security Plans of Ohio on behalf of the Edison Company, The Cleveland Electric Illuminating Company, and The Toledo Edison Company, Case No. 13-1147-EL-UNC, May 2013.

Presentation on behalf of Alabama Power Company with regard to the appropriate cost of capital for the Rate Stabilization and Equalization mechanism, Dockets 18117 and 18416, July 2013.

Direct testimony before the Federal Energy Regulatory Commission, Docket No. ER13-2412-000, on behalf of Trans Bay Cable LLC, regarding the appropriate ROE to include in the Submission of Revisions to Appendix I of the Trans Bay Transmission Owner Tariff to be Effective 11/23/2013, September 2013.

Direct testimony, rebuttal testimony and sur-surrebuttal testimony before the Arkansas Public Service Commission regarding the appropriate ROE to allow In the Matter of the Application of SourceGas Arkansas Inc., Docket No. 13-079-U for Approval of a General Change in Rates, and Tariffs, September 2013, March 2014, and April 2014.

Direct testimony before the Federal Energy Regulatory Commission, Docket No. ER14-1332-000, on behalf of DATC Path 15, LLC, regarding the appropriate ROE to include in the Submission of Revisions to Appendix I in TO Tariff Reflecting Updated TRR to be Effective February, 2014.

Direct testimony before the Public Utilities Commission of Ohio in the Matter of the Determination of the Existence of Significantly Excessive Earnings for 2012 Under the Electric Security Plans of Ohio on behalf of the Edison Company, The Cleveland Electric Illuminating Company, and The Toledo Edison Company, Case No. 14-0828-EL-UNC, May 2014.

Direct and rebuttal testimony before the Public Service Commission of West Virginia in the Matter of the Application of Monongahela Power Company and The Potomac Edison Company, Case No. 14-0702-E-42T for approval of a general change in rates and tariffs, June 2014 and October 2014.

Direct and rebuttal testimony before the Pennsylvania Public Utility Commission on behalf of Metropolitan Edison Company (Docket No. R-2014-2428745), Pennsylvania Electric Company (Docket No. R-2014-2428743), Pennsylvania Power Company (Docket No. R-2014-2428744), and West Penn Power Company (Docket No. R-2014-2428742) regarding the appropriate cost of common equity for the companies, September 2014 and December 2014.

Initial and Reply Statement of Position before the Public Utilities Commission of Hawaii In the Matter of Instituting an Investigation to Reexamine the Existing Decoupling Mechanisms for Hawaiian Electric Company, Inc., Hawaii Electric Light Company, Inc., and Maui Electric Company, Limited, Docket No. 2013-0141, with Dr. Toby Brown and Dr. Joseph B. Wharton, May 2014 and September 2014.

Direct and rebuttal testimony before the Washington Utilities and Transportation Commission on behalf of Puget Sound Energy, Inc. Docket Nos. UE-130137 and UG-130138 (consolidated) remand proceeding with regard to the effect of decoupling on the cost of capital, November 2014 and December 2014.

Direct testimony before the Michigan Public Service Commission on behalf of the Detroit Edison Electric Company (Case No. U-17767) on the cost of capital for DTE's electric utility assets, December 2014.

Direct and reply testimony before the Regulatory Commission of Alaska on behalf of Cook Inlet Natural Gas Storage Alaska, LLC, Docket No. U-15-016 on the appropriate allocation of the proceeds from the sale of excess Found Native Gas discovered incidental to the construction of the storage facility, April 2015 and July 2015.

"Report on Gas LDC multiples," with Bente Villadsen, Alaska Industrial Development and Export Authority, May 2015.

Prepared direct testimony before the Federal Energy Regulatory Commission, Docket No. ER15-__-000, on behalf of South Central MCN, LLC, regarding the appropriate ROE to include in the transmission rate formula (Formula Rate) to establish an annual transmission revenue Appendix A to the Direct Testimony of Michael J. Vilbert

requirement (ATRR) for transmission service over facilities that SCMCN will own in the Southwest Power Pool, Inc. (SPP) region, September 2015.

REBUTTAL EXHIBIT R-MJV-1: REIT and Utility Access to Equity Market through Secondary Offerings

