

**COMMONWEALTH OF PUERTO RICO
PUBLIC SERVICE REGULATORY BOARD
PUERTO RICO ENERGY BUREAU**

NEPR

Received:

May 14, 2021

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IN RE: REVIEW OF LUMA'S
TERMS OF SERVICE (LIABILITY
WAIVER)

CASE NO. NEPR-MI-2021-0007

**SUBJECT: LUMA's Pre-Filed
Testimonies for Technical Conference**

**MOTION SUBMITTING PRE-FILED TESTIMONIES IN LIEU OF
PRESENTATION FOR THE VIRTUAL TECHNICAL CONFERENCE**

TO THE HONORABLE PUERTO RICO ENERGY BUREAU:

COME NOW LUMA Energy, LLC ("ManagementCo"), and **LUMA Energy ServCo, LLC** ("ServCo"), (jointly referred to as "LUMA"), and respectfully state and request the following:

1. On May 4, 2021, this honorable Puerto Rico Energy Bureau ("Bureau") issued a Resolution and Order ("May 4th Order") that set a procedural calendar in this proceeding. Among others, the May 4th Order required LUMA to file its presentation for the May 18th virtual technical conference, on or before May 14, 2021.

2. On May 11, 2021, LUMA filed a *Motion Submitting Responses to Attachment A to May 4th Resolution and Order*. On said motion, LUMA informed that, on or before May 14th, LUMA would submit the pre-filed testimony of its representative, Mr. Mario Hurtado, Vice President of Regulatory, as well as the pre-filed testimony and expert report of an independent expert witness on Terms of Service, Mr. Branko Terzic, and that LUMA would offer these testimonies in lieu of a Power Point presentation.

3. Therefore, in compliance with the May 4th Order, LUMA hereby submits the pre-filed testimonies of Mr. Hurtado and Mr. Terzic, who will be participating in the May 18, 2021 technical conference. *Exhibits 1 and 2.*

4. The filing of these testimonies is meant to assist this honorable Bureau in its consideration and approval of the Terms of Service.

WHEREFORE, LUMA respectfully requests that this Bureau **take notice** of the aforementioned and **deem** that LUMA complied with that portion of the May 4th Order that requires LUMA to file its presentation for the May 18th virtual technical conference.

RESPECTFULLY SUBMITTED.

In San Juan, Puerto Rico, on May 14, 2021.

I hereby certify that I filed this motion using the electronic filing system of this Energy Bureau and that notice of this motion will be sent to the attorneys for PREPA, Joannely Marrero-Cruz, jmarrero@diazvaz.law; and Katuska Bolaños-Lugo, kbolanos@diazvaz.law.



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**COMMONWEALTH OF PUERTO RICO
PUBLIC SERVICE REGULATORY BOARD
PUERTO RICO ENERGY BUREAU**

IN RE: REVIEW OF LUMA'S
TERMS OF SERVICE (LIABILITY
WAIVER)

CASE NO. NEPR-MI-2021-0007

Pre-Filed Testimony
Mario Hurtado
Vice President Regulatory,
LUMA Energy LLC

May 14, 2021

1 Q1. Please state your name and position within LUMA Energy LLC.

2 A1. My name is Mario Hurtado. I am Vice President, Regulatory, LUMA Energy.

3 Q2. On whose behalf are you testifying?

4 A2 LUMA Energy ServCo LLC and LUMA Energy LLC as Management Co.

5 Q3 Please state your educational background and professional experience.

6 A3. I received a Bachelor of Arts degree in Political Science from Columbia University in 1990.

7 I have over 25 years of professional experience in the development and management of

8 large electric utility and energy businesses throughout the United States and Latin America.

9 In 2020, I joined LUMA Energy as Vice President for Regulatory. Previous to that I was
10 an advisor to Quanta Services, focused on the Request for Proposals for Operation &
11 Maintenance of the Puerto Rico Transmission and Distribution System.

12 Q4. Have you previously testified before the Puerto Rico Energy Bureau (PREB)?

13 A4. Yes, I have appeared before this honorable Energy Bureau in several pre-filing technical
14 conferences, since January 2021, in cases NEPR-MI-2019-0007; NEPR-MI-2021-0001;
15 NEPR-AP-2020-0025; NEPR-MI-2020-0019; NEPR-2021-0004. I recently provided
16 testimony under oath in the Technical Conference held in the Initial Budgets proceeding,
17 Case No. NEPR-MI-2021-0004 and in the Technical Conference for System Operation
18 Principles, Case No. NEPR-MI-2021-0001.

19 Q5. What is the purpose of your Direct Testimony in this proceeding?

20 A5. I am testifying in support of and to request approval by this Puerto Rico Energy Bureau of
21 LUMA's Request for Approval of the Terms of Service ("Petition for Approval of the
22 Terms of Service") that are included in Section 4.1(g) of the Puerto Rico Transmission and

23 Distribution System Operation and Maintenance Agreement dated June 22, 2020 (known
24 as the OMA).

25 Specifically, my testimony supports inclusion of the OMA Terms of Service in PREPA's
26 Tariff Book approved by PREB by Resolution and Order issued on May 28, 2019, in Case
27 Number CEPR-AP-2015-0001; CEPR-AP-2018-0003 ("Tariff Book Resolution and
28 Order").

29 Q6. Did you review or consult any documents in preparation for your testimony?

30 A6. Yes, I mainly reviewed the following documents:

- 31 1. The text of the OMA;
- 32 2. LUMA's Request for Approval of the Terms of Service filed on February 24, 2021 as
33 Exhibit 2 to LUMA's Request for Approval of the proposed Initial Budgets;
- 34 3. LUMA's Initial Budgets;
- 35 4. LUMA's System Remediation Plan;
- 36 5. The Pre-Filed Testimony and Report of Mr. Branko Terzic; and
37 The Puerto Rico Electric Power Authority's (PREPA) historical data on claims paid
38 since 2009;
- 39 6. PREPA's list of pending and active claims as of March 31, 2021; and
- 40 7. Information on PREPA's insurance program for General Liability.

41 I also rely upon my personal knowledge and experience and on data and documents that I
42 have reviewed in preparation for other testimonies before this Energy Bureau with regards
43 to LUMA's Initial Budgets, System Remediation Plan, and System Operation Principles.

44 Q7. What are the Terms of Service that LUMA has requested that the PREB approve?

45 A7. LUMA is requesting inclusion of Terms of Service within the 2017 Rate Order and
46 PREPA's Book of Tariffs for all customer classes to provide that:

47 PREPA, its directors, officers, employees, agents and contractors
48 (including "LUMA Energy, LLC and LUMA Energy Servco, LLC)
49 (the "Released Parties"), (i) shall not be liable to customers, or any
50 person (natural or legal) receiving power or electricity for any losses
51 arising in any way out of or in connection with the operation of the
52 transmission and distribution system and the provision of power and
53 electricity including any events of interrupted, irregular or defective
54 electric service due to force majeure events, other causes beyond the
55 Released Parties' control, or ordinary negligence, gross negligence
56 or willful misconduct of the Released Parties or their respective
57 employees, agents or contractors; (ii) and in all cases shall not be
58 responsible for any loss of profits or revenues, special, exemplary,
59 punitive, indirect, incidental or consequential damages, including
60 loss of revenue, loss of use of equipment, cost of capital, cost of
61 temporary equipment, overtime, business interruption, spoilage of
62 goods, claims of customers of electric customers or other economic
63 harms, in each case howsoever and whensoever arising, including
64 where caused by any of the Released Parties' ordinary negligence,
65 gross negligence or willful misconduct.

66 Q8. Who made the decision to apply for inclusion in the 2017 Rate Order and PREPA's Book
67 of Tariffs of the Terms of Service?

68 A8. The parties to the OMA, which are LUMA, PREPA and the Puerto Rico Public-Private
69 Partnerships Authority.

70 Q9. Why were the proposed Terms of Service with a limit on economic liabilities included in
71 the OMA?

72 A9. They were included as a necessary component of LUMA's ability to stabilize, recover and
73 transform the operations of Puerto Rico's Transmission and Distribution System (T&D
74 System), remediate the system that, as both the Puerto Rico Legislature and this Bureau
75 have recognized, is plagued with a neglected and unreliable infrastructure and ineffective
76 management processes and is in a state of disrepair due to lack of maintenance and
77 insufficient capital investments, among others.

78 The Terms of Service are an essential component of LUMA's ability to remediate the
79 system while at the same time provide customers with efficient and reliable electric power
80 services within the approved revenue requirement for the electric base rate and without the
81 need to increase rates to customers.

82 Given that LUMA will step in to operate a utility whose performance is well-below
83 industry standards, and given the ailing state of the grid and electric power infrastructure,
84 the parties to the OMA agreed that to include Terms of Service with a limitation on
85 liabilities, and to request that this Bureau approve them and incorporate into PREPA's
86 Book of Tariffs.

87 An important consideration for the parties was that Terms of Service that include waivers
88 of economic liabilities, are standard for United States utilities, as explained in the Petition
89 for Approval of the Terms of Service and LUMA's independent expert witness further
90 explains. In fact, ATCO, LUMA's parent company, enjoys a statutory liability waiver in

91 Canada. Another important consideration was the risk of occurrence of major catastrophic
92 events that could affect the utility's ability to render services and expose LUMA as
93 Operator, and PREPA, as asset owner, to substantial claims for relief that could threaten
94 the ability to provide an essential service.

95 The proposed Terms of Service were adopted to ensure that PREPA and LUMA do not
96 incur in liabilities arising from individual customer civil claims for compensation that will
97 lead to increased costs that will be reflected in customer rates or could render the utility
98 unable to operate.

99 The Terms of Service would save LUMA as operator and PREPA as asset owner and
100 electric utility customers considerable resources, money and time spent dealing with claims
101 for compensation and damages.

102 Q10. What are the terms of service currently applicable to PREPA?

103 A10. PREPA is liable for claims for damages directly and the claims are paid either by insurance,
104 where applicable, but mostly from PREPA's budget, that is, from revenues based on
105 customer rates.

106 Q 11. What is your assessment of PREPA's current Terms of Service?

107 A 11. They are not consistent with Prudent Utility Practice and will not allow LUMA to meet
108 Contract Standards and provide services in accordance with Prudent Utility Practice. They
109 expose customers to avoidable increases in rates, impede PREPA's ability to provide cost-
110 effective services and expose PREPA to claims for catastrophic losses whose payment will
111 only lead to financial distress.

112 LUMA's independent expert witness in this proceeding, will further address PREPA's
113 current Terms of Service in his testimony.

Q12. How does PREPA currently cover the costs for payments of the claims that would be covered by the Terms of Service?

A12. From the information that LUMA has obtained from PREPA, PREPA carries a \$1,000,000 self-insured retention for general liability insurance and has an occurrence deductible of \$1,000,000 for each occurrence, for a \$2,000,000 aggregate. It is LUMA's understanding from the information that we have received from PREPA, that PREPA pays from its own budget a substantial portion of the claims for compensation. This is also supported by the fact that the majority of the claims that PREPA reports as having paid since 2009 are below the \$1,000,000 insurance retention threshold.

Q 13. What are the purposes of the proposed Terms of Service?

A13. To prevent increases in utility costs, ensure a predictable, fair and reasonable treatment of customers, protect PREPA from catastrophic losses (and potential resulting adverse impacts to reliability), and mitigate the risks resulting from the obligation to provide services to all customers, regardless of the potential liability these may pose.

The Terms of Service will help guarantee that the cost of electric power service in Puerto Rico is affordable, just, reasonable and consistent with sound fiscal and operational practices that provide for a reliable and adequate service.

The proposed Terms of Service also protect PREPA and LUMA from catastrophic losses that may occur in the event of service disruptions or malfunctions of, or damage to, the electrical system caused, for example, by atmospheric events, to which Puerto Rico is especially prone. Catastrophic losses can place the utility in fiscal jeopardy, negatively affect service and adversely impact rate structures. The likelihood of catastrophic damages resulting in the occurrence of these types of situations is substantially higher in the case of

the T&D System when compared to other utilities in the U.S. because of the T&D System's current state. The T&D System is more prone to suffer outages and service disruptions, among other service issues, than the typical utility in the United States. As a result, there is vulnerability to claims associated with these conditions, which could be substantial and adversely impact the T&D System's operational budget.

The Terms of Service mitigates risks resulting from PREPA's legal obligation to provide services to all customers, regardless of the potential liability. They are a proven and standard mechanism in regulatory practice that benefits customers.

Having Terms of Service that include waiver of economic liabilities, as most utilities have, will also be favorable when negotiating insurance coverage prospectively. LUMA will be looking very closely at ways to improve the insurance programs and obtaining this waiver will be an important step in making the risk-transfer component of the insurance policies more effective while offering stability to the people of Puerto Rico. LUMA will soon start to work with the global insurance markets. The waiver will absolutely help in transforming the risk programs as the utility's financials improve and it is able to have a better seat at the table when it comes to negotiating power.

Q14. Is it in the public interest for the Bureau to approve the proposed terms of service?

A14. Yes. The primary reason is to protect ratepayers from an increase in rate borne out of the costs of third-party claims and suits for unbounded risks and catastrophic losses that jeopardize the utility's ability to provide an essential service.

The proposed Terms of Service are not intended to limit the protections or the processes currently established under by the Office of the Independent Consumer Protection Office to protect customers and the Puerto Rico Energy Bureau's authority to exercise oversight

over the electric sector in general, and PREPA and LUMA in particular. The proposed terms of service are meant to provide protection for the risk of future third party claims which could result in significant increases to rates and further imperil PREPA's financial condition.

Q15. How do the Terms of Service protect public interests?

A15. It is in the public interest to have a robust utility that is not liable for claims of damages that may affect its operations and require an increase in rates.

The Terms of Services will allow LUMA, as Operator of PREPA's T&D System, to fulfill the requirement by law to provide essential public services, indiscriminately, to all customers, regardless of the potential risks to PREPA that the connection of these customers to the electrical system may pose. LUMA's independent expert witness in this proceeding will provide testimony on this matter.

Q16. Does approval of the Terms of Service shield LUMA and PREPA from responsibility in connection with operation of the T&D System?

A16. No. The Terms of Service will not alter the heavily regulated nature of LUMA's operations or PREB's oversight of these operations. LUMA will remain accountable to the PREB and its customers for compliance with the Puerto Rico energy public policy and regulatory framework as well as all legal and regulatory requirements applicable to electric power service companies.

Under Act 17-2019, LUMA will be required to meet specified requirements and standards for the reconstruction and modernization of the T&D System to render it robust, resilient and stable.

182 LUMA is also subject to PREB's oversight with respect to the implementation of various
183 provisions of the OMA, including the establishment of Performance Metrics, System
184 Operation Principles and a System Remediation Plan.

185 LUMA also has specific obligations under the OMA to provide Operation & Maintenance
186 Services ("O&M"), in accordance with Contract Standards that include the terms,
187 conditions, methods, techniques, practices and standards imposed or required by
188 Applicable Law; Prudent Utility Practice; and applicable equipment manufacturer's
189 specifications and reasonable recommendations; among others.

190 Finally, many of the programs proposed in LUMA's Initial Budgets, some of which are
191 also programs within LUMA's System Remediation Plan, will establish internal controls,
192 policies, procedures or other measures to protect customers from risks related to the T&D
193 System operation and maintenance that could result in the potential liability that the Terms
194 of Service seek to address.

ATTESTATION

I, Mario Hurtado, being first duly sworn, state the following:

This pre-filed direct testimony constitutes my direct testimony in the above-styled proceeding before the Puerto Rico Energy Bureau. This pre-filed testimony includes the answers that I would give if asked the questions that are included in the pre-filed direct testimony. I certify that the information, facts and statements provided herein is my direct testimony, to the best of my knowledge, true and correct.

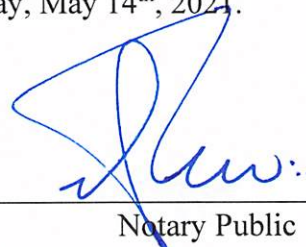


Name: Mario Hurtado

Title: Vice President of Regulatory

Affidavit No. 319

Acknowledged and subscribed before me by Mario Hurtado, whose full name is as described herein, of legal age, married, business executive, and resident of San Juan, Puerto Rico, in his capacity as Vice President of Regulatory for LUMA Energy LLC, who is personally known to me. In San Juan, Puerto Rico, today, May 14th, 2021.



Notary Public

**COMMONWEALTH OF PUERTO RICO
PUBLIC SERVICE REGULATORY BOARD
PUERTO RICO ENERGY BUREAU**

IN RE: REVIEW OF LUMA'S
TERMS OF SERVICE (LIABILITY
WAIVER)

CASE NO. NEPR-MI-2021-0007

Branko Terzic
Expert Report and Testimony
On behalf of
LUMA Energy LLC and LUMA Energy ServCo LLC

May 13, 2021

1 **Q. Please state your name, address and occupation?**

2 A. My name is Branko Terzic. I am a consultant holding the position of Managing Director
3 at Branko Terzic & Associates LLC. 1791 Brookside Lane Vienna, Virginia 22182. I am
4 also affiliated with the Berkeley Research Group LLC at the business address of 1800 M
5 Street N.W. Washington, DC 20036.

6 **Q. What is your educational background?**

7 A. I have a B.S. in Energy Engineering (1972) and was awarded an honorary Doctor of
8 Sciences in Engineering (2009) both from the University of Wisconsin-Milwaukee. A
9 summary biography is provided here and a full CV is attached as Exhibit 1.

10 **Q. What is your professional experience?**

11 A. During my five -decade career in the regulated electric utility industry I have been a
12 consultant, a state and federal regulator and the CEO of a regulated utility. In a brief
13 summary of positions held; prior to my current position and affiliation I was Executive
14 Director of the Center for Energy Solutions at Deloitte. Before that, I was Chairman,
15 President and CEO of Yankee Energy System, Inc. (1994-1999); Managing Director
16 Arthur Andersen Economic Consulting (1993-1994); Commissioner on the Federal
17 Energy Regulatory Commission (1990-1993); Group Vice President at AUS Consultants
18 (1987-1990); Commissioner on the State of Wisconsin Public Service Commission
19 (1981-1986); Partner in Terzic & Mayer Public Utility Consultants; Vice President
20 Associated Utility Services, Inc.; Valuation Engineer at the American Appraisal
21 Company and Special Investigations Engineer and later Environmental Engineer for the
22 Wisconsin Electric Power Company.
23 I have been a member of the National Petroleum Council and National Coal Council and

I am a former Chairman of the United Nations Economic Commission for Europe (UN ECE) Ad Hoc Group of Experts on Cleaner Electricity Production (2007-2012). From 1987-1990, I was the founding Chairman of the State of Wisconsin Racing Board.

I have published articles in numerous energy and finance publications including the magazines of the EEI and AGA, as well as *Public Utilities Fortnightly*, *Oil & Gas Investor* and others. My bi-weekly column *Terzic on Strategy* was published from 1999 to 2009 in *New Power Executive*. My chapter on energy appeared in *THE WORLD CRISIS: The Way Forward After Iraq* (Constable, London 2008) edited by Robert Harvey.

I have appeared regularly on CNN International and have appeared as a commentator on numerous TV news programs including CNN, CNBC, Fox Business, PBS, Voice of America, and Al Jazeera.

I was elected to the Energy Efficiency Forum Hall of Fame (2009) and was honored with the “Champion Award” by The Women’s Council on Energy and Environment (2008) as well as other industry awards.

I have been a faculty member of the Washington Campus consortium of sixteen university MBA programs since 2005.

I am a founder of the Society of Depreciation Professionals. I have served on the board of the National Regulatory Research Institute (NRRI), the research arm of the National Association of Regulatory Utility Commissioners (NARUC). I am a past chairman of the Natural Gas Roundtable. I was a registered Professional Engineer in Wisconsin from 1985 to around 2010.

I have also provided training on utility regulation to utilities, regulatory agencies,

47 academic institutions and consultancies. I have also been a frequent speaker at industry,
48 university and government energy and utility programs.

49 **Q. Have you testified in the past in public utility or other regulatory proceedings as an**
50 **expert witness.**

51 **A.** Yes, I have testified before state public service commissions, in bankruptcy court and at
52 the Federal Energy Regulatory Commission (FERC). I have also appeared before
53 committees of the US House of Representatives and Senate. A list of my previous
54 testimonies is provided as Exhibit 2.

55 **Q. Do you have any experience in the regulation of electric utilities?**

56 **A.** Yes, in my five plus years of service as a Commissioner on the State of Wisconsin Public
57 Service Commission (WPSC), I regulated electric utilities as well as natural gas,
58 telephone, water and sewer utilities. The regulation of electric utilities at the WPSC was
59 at retail and included the establishment of rates, tariffs and terms of service. In my role
60 as Commissioner on the U.S. FERC, with respect to electricity industry, I participated in
61 matters related to regulated wholesale electric power markets and bilateral wholesale
62 sales at cost of service and electricity transmission tariffs, including terms of service.

63 **Q. Do you have any experience in the regulation of public power entities such as the**
64 **Puerto Rico Electric Power Authority (PREPA)?**

65 **A.** Yes, the state of Wisconsin, where I served as a commissioner, is somewhat unique
66 among state commissions in that the state legislature granted the WPSC authority over all
67 the "public power" systems in the state. These systems were, of course, significantly
68 smaller than PREPA but the regulatory relationship was the same.

69 It is my understanding that in the U.S. Wisconsin, perhaps a few other states, and Puerto
70 Rico have an arrangement where one government agency regulates another government
71 agency operating electric utility. In almost all other states the municipal electric systems
72 or federal electric system such as the Tennessee Valley Authority are self-governed.

73 The *public* power entities in Wisconsin are owned by municipalities but regulated by the
74 WPSC. The Municipal Electric Utilities of Wisconsin lists 81 community-owned,
75 locally-controlled municipal electric utilities. They distribute more than 11 percent of the
76 state's electricity and provide service to nearly 300,000 customers in 41 of Wisconsin's
77 72 counties.¹ In addition, the WPSC, while I served as Commissioner, regulated over
78 500 municipal water utilities and over 100 wastewater utilities and all of these had terms
79 of service as part of their tariff.

80 **Q. Have you reviewed the Terms of Service ("TOS" or "Terms of Service") requested**
81 **by PREPA/LUMA in their Exhibit 2 "Request for Approval of the Terms of Service**
82 **and Memorandum of law in Support thereof"?**

83 A. Yes, I have.

84 **Q. Have you prepared an opinion on whether the Puerto Rico Energy Bureau (PREB)**
85 **should approve the requested Terms of Service?**

86 A. Yes, I have. It is my opinion that the PREB should approve the requested Terms of
87 Service making them applicable to all customer classes in PREPA's Tariff Book. The
88 requested Terms of Service are within the range of public utility industry practices with
89 regards to limitations of liability. The wording from Exhibit 2 of the Terms of Service
90 Petition is:

¹ www.meuw.org/aboutus

PREPA, its director, officers, employees, agents and contractors (including LUMA Energy, LLC and LUMA Energy Servco, LLC) (the "Released Parties"), (i) shall not be liable to customers, or any person (natural or legal) receiving power or electricity for any losses arising in any way out of or in connection with the operation of the transmission and distribution system and the provision of power and electricity including any events of interrupted, irregular or defective electric service due to force majeure events, other causes beyond the Released Parties' control, or ordinary negligence, gross negligence or willful misconduct of the Released Parties or their respective employees, agents or contractors; (ii) and in all cases shall not be responsible for any loss of profits or revenues, special, exemplary, punitive, indirect, incidental or consequential damages, including loss of revenue, loss of use of equipment, cost of capital, cost of temporary equipment, overtime, business interruptions, spoilage of goods, claims of customers of electric customers and other economic harms, in each case howsoever and whensoever arising, including where caused by the Released Parties' ordinary negligence, gross negligence or willful misconduct.

Q. What is your understanding of the reasons for the request for this Terms of Service?

A. I have read the reasons for the request for approval of the new Terms of Service as presented in the petition entitled "Request for Approval of Terms of Service and Memorandum of Law in Support Thereof" and are summarize on page 15 as "...these terms of Service are justified and they advance the public interests because they help prevent increases in utility costs, ensure a predictable, fair and reasonable treatment of customers, protect the utility from catastrophic losses (and potential resulting adverse

impacts of reliability these may pose.” LUMA’s Petition and the testimony of the LUMA representative addresses this question.

Q. How did you reach your opinion in this proceeding?

A. I reviewed the proposed Terms of Service and then I compared it to Terms of Service either adopted by similar public power electric utilities in the United States or approved for public power electric utilities by regulators in Wisconsin. I also reviewed examples of Terms of Service approved by regulators for investor owned utilities (“IOU”) in the United States and Canada.

I also searched for and found published literature, reports or analysis on the topic of liability limitations within Terms of Service for electric utilities. I would advise that the reports and comments that I reviewed are written from the point of view of regulation of an IOU and not a public power system. However, in both cases of public power ownership and IOU ownership, prudent utility practice has dictated that some form of limitation on liability be incorporated in tariffs.

Q. Having performed your research and analysis, what is your opinion of the proposed Terms of Service?

A. My opinion, after research and analysis and including taking into account my own five decades of experience as a regulator, utility executive and consultant in the regulated utility industry is based on the following three conclusions:

1. A Terms of Service provision which includes limits on the economic liability of electric utilities due to service interruptions, deficient, irregular or imperfect service, within filed rates is universal in the US for both Investor Owned Utilities (IOUs) and Public Power electric utilities such as PREPA.

137 2. The requested Terms of Service are appropriate for PREPA and are in the “public
138 interest.”

139 3. The Terms of Service as requested is a necessary component of the Initial Budgets
140 Petition and, as such, is part of a package under “Contract Standards” which include
141 practices and standards commensurate with Prudent Utility Practice.

142 **Q. Does the fact that PREPA has executed an Operating and Management Agreement**
143 **(OMA) with LUMA change your opinion about the requested Terms of Service?**

144 A. No, it does not. LUMA is engaged to operate the PREPA electric system for a fee under
145 a contract which includes a series of performance indicators, none of which are tied to the
146 level of profitability at PREPA. The Terms of Service and proposed limitations on
147 liability remain those of the public power entity, PREPA. Further, should PREPA under
148 LUMA management produce any revenues in excess of costs, the funds would belong to
149 the PREPA and the people of Puerto Rico.

150 **Q. What is the basis for your first conclusion that Terms of Service limiting economic**
151 **liability is universal for both IOU and public power electric utilities in the United**
152 **States?**

153 A. I have reviewed Terms of Service for an electric utility in almost every state and a
154 number of the provinces of Canada. All have some form of TOS limitation. In addition,
155 a review of the literature on the subject and sampling of tariffs of both types of utilities
156 providing electric utility service led me to conclude that limitations of liability for
157 economic loss due to outages are universal in the United States. For example, a recent
158 report by researchers at Columbia University and the Environmental Defense Fund
159 found, with respect to the issue of Limitations of Liability from power outages, that:

160 *"It is notable that these types of provisions exist in utility tariffs in every state. As the*
161 *provisions are often given the force and effect of law once they are approved by the state*
162 *utility commission. Judges will be bound by their limitations in adjudicating tort claims,*
163 *although there is some room for interpretation."*²

164 My review indicates that very few regulatory commissions require or condone
165 compensation in terms of money paid by the utility to individual customers. And as I
166 discuss below, there are several valid reasons for this.

167 The same researchers at Columbia University and the Environmental Defense Fund
168 found that:

169 *"Limitations of liability have generally been justified as in the public interest on the basis*
170 *that, when their liability is defined and limited, electric utilities are better able to provide*
171 *service at reasonable rates."*

172 The basis for the claim of "reasonable rates" is that compensation systems, like that of
173 PREPA now, which pay individual customers for outages and other service deficiencies
174 include the cost of compensation payments in the revenue requirement adding to the total
175 cost of service paid by all consumers. Thus, the current liability system increases costs to
176 all consumers but provides a benefit to a few. The new TOS would allow for more
177 efficient allocation of resources where funds can go to funding new investment and
178 improved service that benefit all consumers rather than individual claimants.

² Webb, Romany M., Panfil, Michael, Ladin, Sarah, "Climate Risk in the Electricity Sector: Legal Obligations to Advance Climate Resilience Planning by Electric Utilities," Columbia Law School & Environmental Defense Fund, 2020.

179 It is my understanding that the history of the current system has failed to produce public
180 benefits of improved electric services in terms of lower outage occurrence or frequency.
181 The FTI report entitled “The Advantages of a Third-Party T&D Operator of the Puerto
182 Rico T&D System,”³ included in the Partnership Committee Report – Puerto Rico
183 Public-Private Partnership for The Electric Power Distribution and Transmission System,
184 indicated that the Consumer Average interruption Duration Index (“CAIDI”), which is
185 the average restoration time a customer may experience, for PREPA has been “higher
186 than target metrics” and that “... with the exception of 2008, CAIDI has experienced an
187 upward trend over the past seven years.” This would imply that the current outages
188 payment system has been an ineffective tool for the reduction of outages.

189 **Q. What are the public interests that regulators consider in approving Terms of**
190 **Service limiting economic liability?**

191 A. The public interests may be understood with reference to the decision by the
192 United States Supreme Court ruled in *Munn vs. Illinois*⁴ that certain classes of private
193 business could be regulated as to prices charged because these businesses were vested
194 with a “public interest.” These types of companies were thus called “public utilities” or
195 “public service companies” and the state agencies set up to regulate them given the
196 applicable public interests are most frequently called in the United States a “public
197 service commission.” While defining the public interest is a matter of subjective
198 interpretation, through the decades commissions have simplified it to two major features:

³ Partnership Committee Report – Puerto Rico Public-Private Partnership for The Electric Power Distribution and Transmission System, Exhibit B at page 95, available at <https://www.p3.pr.gov/wp-content/uploads/2020/06/20-0520-02-partnership-committee-report-r18.pdf>.

⁴ 94 U.S. 113, 125-26, 130 (1876).

(1) utility customers should have highly reliable service and pay just and reasonable rates for service, and (2) a prudent utility should earn a return on equity that allows it to be financially viable but not highly profitable. This regulatory analysis involves, among other things, decisions that reflect fairness for all involved parties in the regulatory process and commitment to the general good. Specifically, good regulation weighs legitimate interests and makes decisions based on facts, with the goal of balancing the interests of the various stakeholders.

Q. What is the basis for your second conclusion that the requested Terms of Service is appropriate for PREPA and are in the “public interest”

A. I believe that the adoption of the new terms of service is in the public interest because the new terms will assist PREPA in meeting a number of its established Puerto Rico energy public policy goals, including “to guarantee that the cost of the electric power service in Puerto Rico be affordable, just, reasonable, and nondiscriminatory for all consumers in Puerto Rico”, as stated in the Article 1.5 (1)(a) of Puerto Rico Energy Public Policy Act (Act 17-2019), and to ensure that consumers in Puerto Rico “receive a reliable, stable, and excellent electric power service at a cost that is accessible, just, and reasonable,” as Article 1.5(10)(a) of Act 17-2019 provides.

The new terms of service and accompanying performance indicators will release resources now spent on litigation to needed maintenance and investment in service quality. The reduction in payments for service loss will lower the cost of electric service to all PREPA consumers, who otherwise fund those payments in the form of higher rates. The omission of volatile or hard to estimate liability payments will support the financial stability of PREPA. Legal, administrative, and technical resources now required by the

claims payments system could be diverted to activities allowing for greater efficiency (and reliability) in operations.

The reduction of costs is of significant concern to the people of Puerto Rico as the public policy set forth in Act 17-2019, provides that rates shall not exceed or should be below twenty cents (\$0.20) per kilowatt-hour, while the May 15 2020 Partnership Committee Report “Puerto Rico Public Private Partnership for the Electric Power Transmission and Distribution System,”⁵ indicates that PREPA’s average cost per kilowatt-hour was at \$0.194 already in 2016. One of the few tools available to regulators to reduce costs to a utility, which is mostly subject to market prices for labor, material and service is that of adopting a more restricted limitations of liability in a Terms of Service.

Q. In your review of a liability waiver in the context of damages related to service interruptions, defective, irregular or failed services in connection with transmission and distribution of energy, what are the range of compensation models within the Terms of Service you have reviewed?

A. The range in rules is quite broad. The rules range from: no liability on the part of the utility due to outages, to strict liability where there is some compensation for outage-related losses, to compensation only when gross negligence can be shown on the part of the utility.

Under the strict liability, as is the current case in PREPA, an economist has observed that:

⁵ See id, note 7, FTI Report, Figure 7 at page 96.

242 *Strict liability...increases the costs utilities occur... increases costs of payments utilities*
243 *have to make... compels all ratepayers to purchase fully compensatory insurance against*
244 *losses from outages... creates moral hazard, as loss recovery removes ratepayer*
245 *incentives to mitigate outage losses when a storm is coming.”*⁶

246 An additional consideration is the regressive effect on low-income consumers. Passing
247 along increased costs to all consumers as electric utility ratepayers would
248 disproportionately affect low-income households who spend a larger percentage of their
249 income on electricity service than high income households.

250 The difference in utility liability waivers across the US, in my opinion, are due to myriad
251 factors, including: state law, court decisions, the public and political significance of
252 outages, frequency and responses outages due to extreme weather events, frequency and
253 responsiveness to outages due to non-weather related events, the existence of other
254 regulatory actions providing incentives for reliability and resilience, the history of rate
255 increases and comparative rate levels to other regions and areas, etc.

256 **Q. Is the requested Terms of Service typical for US electric utilities?**

257 A. Individual Terms of Service (TOS) for a specific utility are not typical. Each utility TOS
258 is reflective of the uniqueness of state law, utility regulatory experience, recent history
259 after catastrophes and many other factors. The requested TOS is more restrictive as it
260 includes the exemption for “gross negligence and willful misconduct...” The document

⁶ Brennan, Timothy, “Holding Distribution Utilities Liable for Outage Costs: An Economic Outlook” RFF DP13-16 2013.

261 “request for approval and memorandum of law” discusses the reasons for the inclusion of
262 this language in the request.

263 In my opinion a more restrictive limitation of liability can be supported in this instance
264 due to a number of unique and negative circumstances. Under the OMA, LUMA Energy
265 steps into manage and operate a large and complex electric system which it did not
266 design, build, operate, train the workforce or maintain with its own crews. Thus, claims
267 of economic losses in the future will most likely be the result of the accumulated
268 problems inherent in the existing electric system LUMA will contract to operate and
269 improve in the future.

270 In Act 17-2019 the Legislature of Puerto Rico discussed the status of assets of PREPA,
271 which will next be operated by LUMA, noting that after 78 years of PREPA
272 management:

273 *“[e]lectric power services in Puerto Rico are inefficient, unreliable and provided at an*
274 *unreasonable cost to residential commercial and industrial customers despite the*
275 *existence of a vertically integrated monopolistic structure. This was mainly due to a lack*
276 *of infrastructure maintenance, the inadequate distribution of generation vis-a vi demand,*
277 *the absence of necessary modernization of the electric system to adjust to new*
278 *technologies, energy theft, and the reduction of the Electric Power Authority’s*
279 *personnel.”*

280 Q. **What is the basis for your third conclusion that the requested Terms of Service**
281 **should be approved as it is a part of the Initial Budget Petition which also includes a**
282 **package of ‘Contract Standards’?**

283 A. The Initial Budget Petition filed with PREB includes a significant new series of
284 “performance metrics” defined as “numeric indicators to measure how well LUMA is
285 performing in alignment with public policy and making tangible improvements for Puerto
286 Rico.”⁷

287 These new performance metrics will provide an objective and ongoing tool for PREB as
288 the regulator and PREPA as the owner to monitor the performance of LUMA as the
289 operator.

290 The goal is improvement in the reliability of PREPA services to consumers. As I said
291 earlier, payments for outages have failed to improve PREPA services up to this point in
292 time.

293 **Q. What other “regulatory tools” are available to a public utility regulator to improve**
294 **electric system reliability and customer service?**

295 A. There are quite a few tools available other than customer compensation mechanisms.
296 However, as I have stressed earlier, most electric utility regulation involves a government
297 agency as a regulator of private monopolies (i.e., investor owned public utilities).
298 Although not all the tools listed here are strictly applicable to a public power entity, for
299 reasons of completeness here is my list of typical regulatory tools:

- 300 • *Monitoring of utility performance:* for example, the utility reporting to
301 commissions required indicators, commissions reviewing the information and
302 then taking appropriate action; or commissions monitoring at the circuit or
303 system-wide level.

⁷ Exhibit 1 Page XVIII.

- *Setting targets:* for example, minimum standards; failure to meet such standards can trigger regulatory action, such as a detailed inquiry, a penalty (e.g., when a utility fails to restore service in a predefined time frame), or a requirement that a utility explains its substandard performance.
- *Designing and executing an incentive or Performance Based Regulation (PBR) mechanism that rewards or penalizes a utility based on its performance relative to a predefined benchmark:* symmetric treatment of subpar and exceptionally good performance. I would note that the PREB has explicit authority to establish PBR under the Puerto Rico Energy Public Policy Act (Act 17-2019), Section 1.5 (3) Energy Regulatory Entity and Performance Based Regulations and Section 6.25(B) of the Puerto Rico Energy Transformation and RELIEF Act, Act 57-2014.
- *Prudence or retrospective view of actions:* establishes a threshold of minimum acceptable performance; grading and evaluation are done dichotomously: the utility's behavior is either acceptable or unacceptable; there are no intermediary grading of utility-management behavior; a penalty-only mechanism would tend to have the objective of maintaining existing reliability levels
- *Release of utility performance to the public:* the use of publicity to induce utility performance is uncommon in the U.S., but regulators in other countries have more frequently used these tactics.
- *Offering of differentiated services:* charge those customers more if they want enhanced or premium services; or charge less to customers accepting inferior service such as "interruptible" service.

327 The PREB, in my opinion, has the authority to implement, besides the PBR mentioned
328 above, all these other tools under section 6.3 of Act 57-2014, on the Powers and Duties
329 of the Energy Bureau, including sub paragraph (rr) granting the PREB “... *all the*
330 *additional, implicit and incidental powers that are pertinent and necessary to enforce,*
331 *carry out, perform and exercise all the aforementioned powers, and to achieve the*
332 *purposes of this act.*”

333 **Q. Does PREPA’s current Terms of Service and liability, in your opinion, provide an**
334 **incentive for improved reliability of electric service?**

335 **A.** I do not believe by itself that it has or that it could do so. The case in point is here in
336 Puerto Rico where compensation has been the practice but, as observed earlier by FTI,
337 the indicator of outages CAIDI has not improved over the seven recent years for which
338 data was provided. A simple conclusion is that a liberal outage compensation system was
339 in effect but service did not improve.

340 **Q. What, in your opinion, are some of the arguments against the use of outage**
341 **compensation as a method for service improvement?**

342 **A.** There are numerous arguments against compensation, as cited in the NRRI report. Allow
343 me to *highlight* the more significant ones:

- 344 • Outages are inevitable so the customers cannot be entitled to perfectly reliable
345 service. It is not optimal or cost-beneficial to attempt to eliminate the possibility of all
346 outages (since planning to achieve zero outages is nonoptimal, the utility is being
347 penalized for something that is expected and considered prudent; compared with
348 command-and-control environmental regulations where a firm is only penalized when

349 it fails to meet existing current regulations, not for residual pollutions that would not
350 be cost-beneficial to eliminate).

- 351 • The rates for all customers go up if the compensation has no cap or cumulatively
352 becomes a nontrivial amount.
- 353 • Compensation distorts incentives for customer actions. Individual customers can
354 affect damages they suffer from outages (shared responsibility); with forced
355 compensation, all ratepayers could pay for compensating customers who with
356 reasonable care could have mitigated the damage.
- 357 • Customers are in a better position to mitigate outage costs in many instances, in
358 which case the customer should be liable for the loss.
- 359 • It is unfair for utilities to compensate customers when an outage is unpreventable as it
360 puts the utility in the role of an insurer.
- 361 • Rather than pay compensation to a select group of customers, the same monies could
362 be used for system improvement and maintenance benefitting all customers.
- 363 • There are other preferred policies to hold utilities accountable for service quality such
364 as establishing performance standards, imposing fines for failures to meet standards
365 or other financial penalties such as non-pass through of costs or lower levels of
366 return.
- 367 • In many cases homeowners have insurance that covers the losses.
- 368 • Electric utilities lose revenues during outages when service is not delivered through
369 the meter. This is also an obvious automatic incentive to avoid outages.

370 **Q. Are you familiar with arguments in favor of compensation and how do you evaluate**
371 **them with respect to effectiveness with regard to service quality?**

372 A. The arguments in favor are essentially in three areas: fairness to affected consumers, the
373 provision of financial incentives to utilities to improve service and a means for holding
374 utilities accountable for lapses in service quality. Each of these arguments is subject to
375 rebuttal.

376 With respect to “fairness” to the affected consumer, one cannot overlook the issue of
377 fairness to the entire customer base. Most state regulators have determined that the
378 “public interest” is better served when keeping the overall rates reasonable than in
379 compensating individual customers.

380 Payments are neither the only way nor, as most regulators have determined, are they the
381 most effective way of providing incentives for service quality improvements. As
382 mentioned earlier, regulators in the US and elsewhere in the world have relied on PBR
383 and direct penalties for failure to maintain service indicators at acceptable levels.

384 The utility regulator has numerous other means of holding the electric utility accountable
385 for service quality, as indicated earlier in my testimony on “regulatory tools” available to
386 the regulator. Accountability can be in the form of measured service indicators with
387 periodic reporting and explicit penalty for deficient performance or rewards for
388 improvement and higher service levels.

389 Q. **Mr. Terzic, could you provide a short summary of your conclusions and**
390 **recommendation?**

391 A. Yes, I recommend that the PREB approve the requested Terms of Service because
392 limitations on liability for service interruptions, defective, irregular or failed services in
393 connection with transmission and distribution of energy:

394 a) are the most common regulatory policy for electric utilities in the US and Canada,
395 b) are in the “public interest” benefitting the greatest number of PREPA customers, and
396 c) are a part of a package of regulatory policies and requirements designed to incent
397 efficiency, improve operations and reduce costs to PREPA customers.

398 **Q. Does that conclude your testimony?**

399 **A.** Yes, it does.

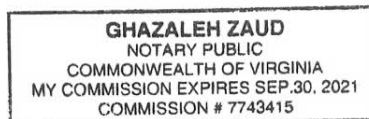
ATTESTATION

By filing this Report and Testimony, I certify that the information, exhibits and analysis provided here is my direct testimony and, to the best of my knowledge, true and correct.

Dated: May 13, 2021 at Vienna, Virginia.

Branko Terzic

Branko Terzic



G. Zaud

5/13/2021

LIST OF EXHIBITS

Exhibit 1 – Curriculum Vitae of Branko Terzic

Exhibit 2 – List of Previous Testimonies of Branko Terzic

Exhibit 1

VITAE
of
Branko Terzic

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President
Branko Terzic & Associates, Inc.
Vienna, Virginia
June 1, 2014 – Present

Offering professional services in energy, resources and water infrastructure investment and regulation for management, boards and investors. Branko Terzic is an internationally recognized former CEO, U.S. state and federal regulator, management consultant and expert witness in the energy and infrastructure industries. Terzic has testified on regulation and rates for natural gas distribution in Idaho, Minnesota, North Carolina and Utah.

Distinguished Fellow, Council on Competitiveness
Senior Fellow, Atlantic Council, Global Energy Center

Member, Society of Depreciation Professionals
Member, Society of Utility Regulatory Financial Analysts
Member, Association of Energy Engineers
Member, United States Association for Energy Economics
Member, (Non-attorney) Energy Bar Association
Faculty Member, The Washington Campus (MBA Programs)

Branko Terzic
Managing Director
Berkeley Research Associates LLC
May 25, 2015-present

Berkeley Research Group, LLC (BRG) is a global consulting firm that helps leading organizations advance in three key areas: disputes and investigations, corporate finance, and performance improvement and advisory. an integrated group of experts, industry leaders, academics, data scientists, and professionals working beyond borders and disciplines.

**Global & U.S. Regulatory Policy Leader in the Energy & Resources Group
Deloitte Services LP 1999- 2014**

**Chairman of the United Nations Economic Commission for Europe (UNECE) Ad
Hoc Group of Experts on Cleaner Electricity Production from Coal and Other
Fossil Fuels (Two-year term from November 26, 2007)**

From 1999-2002 Terzic served as Regional Managing Partner of Resources, Energy & Infrastructure Practice Group for the Deloitte & Touche Central Europe LLP headquartered in Prague, Czech Republic. Former Commissioner Terzic currently held the following appointments and committee memberships while at Deloitte:

- Member, U.S. National Petroleum Council, Committee on Oil and Gas
(Advisory body to the Secretary of Energy)
- Member, Advisory Council, North American Energy Standards Board (NAESB)
- Chairman, US Advisory Group for Carbon *Limited*, and Fellow of The Royal Society for the encouragement of Arts, Manufactures & Commerce (London, UK)
- Associate, The Bonbright Public Utilities Center, University of Georgia
- Faculty, The Washington Campus, (Consortium of 17 MBA Programs)
- Member, Planning Committee, The Bordeaux Energy Colloquium
- Member, Executive Council, The Energy Efficiency Forum
- Member (non-attorney) The Energy Bar Association (U.S.A.)

**Chairman, President and Chief Executive Officer (CEO August 22, 1995)
1994 - 1998**

Yankee Energy System, Inc.

Chairman, President, Chief Executive Officer and Director of Yankee Energy System, Inc. (formerly listed YES:NYSE then acquired in 1999 by Northeast Utilities now Eversource Energy) the parent of Yankee Gas Services Company, the largest gas distribution company in Connecticut and of Yankee Energy Services Company (YESCo) involved in gas-fired power development, operations, consulting, finance and HVAC services.

**Managing Director
1993-1994**

Arthur Andersen Economic Consulting, Washington, D.C. Economic consulting services provided to infrastructure companies. Provided consulting services for US AID for natural gas pipeline in Pakistan.

Commissioner

October 20, 1990, to May 24, 1993

Federal Energy Regulatory Commission; Washington, D.C. The FERC regulates hydro-electric facilities in the US as well as wholesale electric power, natural gas transmission, oil pipeline transport services. Nominated by President George Bush on September 20, 1990, and confirmed by the United States Senate on October 11, 1990, for a term expiring October 20, 1991. Re-nominated by President Bush on September 20, 1991, and reconfirmed by the Senate on October 17, 1991, for a term expiring June 30, 1995.

Chairman, FERC Task Force on Natural Gas Pipeline Competition

Chairman-FERC Task Force on Incentive Regulation

Group Vice President and Director

December 1, 1986, to October 19, 1990

AUS Consultants; Moorestown, New Jersey (Regional Office: Milwaukee, Wisconsin)

Responsible for developing and marketing integrated management consulting services using the resources of the Group companies with over 100 professional consultants. Provided expert consultancy to electric, gas, water and telephone utilities in regulatory policy, valuation and depreciation, acquisition and divestiture, and strategic planning for regulated public utilities and the investment community. Administrative duties included those of Publisher of subsidiary C. A. Turner Utility Reports.

Commissioner

March 18, 1981, to December 1, 1986

State of Wisconsin Public Service Commission - Madison, Wisconsin

The quasi-judicial three-member Commission is responsible for regulation of public utilities in Wisconsin including electric, gas distribution, telephone, water, and sewer. Regulation is designed to promote reliable and adequate service to the public at rates that are reasonable and just. Oversight of public utility; tariff rates, finance and mergers and acquisitions (M&A). During this period the PSC reviewed hundreds of rate cases for the fourteen IOU electric and gas utilities, 500 municipal electric, water and sewer utilities and ninety independent telephone utilities under regulation under.

Served as Chairman of the NARUC Committee on Engineering, Valuation and Depreciation.

Chairman of NARUC Committee on Finance.

Partner

1979 to 1981

Terzic & Mayer Public Utility Consultants - Milwaukee, Wisconsin

The firm, an independent professional valuation and cost engineering firm, provided services to Wisconsin municipal electric, water and sewer utilities subject to state PSC regulation. Services include M&A valuation, depreciation, engineering economics, cost of service, and utility rate design studies. This partnership was dissolved in 1981. The firm provided water and sewer rates consulting services to more than two dozen municipal owned water, sewer and electric systems in the state. The firm continued as John A. Mayer & Associates upon Terzic's appointment to the Wisconsin PSC.

Vice President

1976 to 1979

Associated Utility Services, Inc. (now AUS Consultants) - Milwaukee, Wisconsin

Engaged in valuation and depreciation assignments for M&A and other purposes involving reproduction cost, original cost, investment allocation, cost of service and rate design, and directed the development of a standardized cost index of independent telephone company construction costs. Consultant for electric, telephone, gas, and water utilities.

Staff Appraiser / Valuation Engineer

1974 to 1976 and 1969 to 1971

American Appraisal Associates, Inc.- Milwaukee, Wisconsin

Valuation, depreciation, and special studies for electric, gas distribution, gas transmission, water and telephone utilities, and other properties in North and South America. At that time it was the largest independent US valuation firm.

Special Investigations Engineer and Environmental Engineer

1972 to 1974

Wisconsin Electric Power Company - Milwaukee, Wisconsin

Assignments included valuations, engineering economics, Federal Power Commission, and Public Service Commission analysis and liaison for this combination electric and natural gas utility.

Public Service and Non-Profit Positions

Chairman (Wisconsin State official in part-time capacity)

May 27, 1988, to October 19, 1990

State of Wisconsin Racing Board; Madison, Wisconsin

Appointed to a five-year term on the first five-member board established to regulate racing and on-track pari-mutuel betting, and to promulgate rules and issue licenses. Established this regulatory agency, hired staff and managed applications and hearings process for awarding of track licenses. Result was creation, in 36 months, of a new industry with five operating greyhound tracks in Wisconsin. This entity later superseded by State of Wisconsin Racing Commission

Public Member (Non-profit research institute)

1988 to 1990

Board of the National Regulatory Research Institute at The Ohio State University

This research institute was established in 1976 by the National Association of Regulatory Utility Commissioners.

INSTRUCTOR

On topics of Regulation, Cost of Service, Rate Design, Valuation and Depreciation

US Department of State's National Foreign Affairs Training Center

Arlington, Virginia

Guest Lecturer 1996, 1997, 1998 Business Council for International Understanding "Power Generation Seminar" for Foreign Service Officers

Guest Lecturer 2017, 2018, 2019 Bureau of Energy "Electricity 101"

Yale University School of Management

New Haven, CT

Guest Executive Lecturer 1995, 1996, 1997 for Dean and Professor Paul MacAvoy

Society of Depreciation Professionals

Annual Training 2016, 2017, 2018, 2019, 2020

Tax Institute of America Workshop on Public Utility Valuation

(Sponsored by and held at the Wichita State University)

Lecturer 1984, 1985, 1986, 1987, 1989, 1990, 1993 in Wichita, Kansas

National Communications Forum of the National Engineering Consortium

(A nonprofit corporation affiliated with 42 major universities)
Faculty 1987, 1988, 1989, 1990 in Chicago, Illinois

Seminar on the Regulation of Natural Gas Services

(For the Ministry of Economy and Public Works and Services, Republic of Argentina)
Lecturer 1992 in Buenos Aires, Argentina

World Bank/EBRD Joint Vienna Institute

(Sponsored by The Economic Development Institute of the World Bank and the U.S. Agency for International Development and the EBRD)

Lecturer 1992 in Vienna, Austria, for Czech Republic, Poland, Hungary, and Slovak Republic

Lecturer 1993 in Vienna, Austria, for Bulgaria, Czech Republic, Romania and Slovak Republic

Utility Partnership Program: Management Seminars in Eastern Europe

(Sponsored jointly by the U.S. Agency for International Development and the United States Energy Association and in cooperation with electric utilities in the U.S. and Eastern Europe)

Lecturer 1993 in Sofia, Bulgaria, for the Bulgarian National Electric Company and the Committee on Electricity

Lecturer 1993 in Bratislava, Slovakia for Slovak Power Sector

Lecturer 1994 in Warsaw, Poland for Polish Power Sector

Lecturer 1994 in Budapest, Hungary for Hungarian Power Sector

(Central & Eastern European) **Electricity Management Development Institute**

Lecturer 2000 in Budapest, Hungary for MVM workshop

Lecturer 2000 in Bucharest, Romania for CONEL workshop

PERSONAL:

- Citizenship: United States
- Education and Academic Honors—
The University of Wisconsin -Milwaukee
Bachelor of Science in Engineering (1972)
Honorary Doctor of Sciences in Engineering (2009)

MILITARY:

Honorable Discharge at rank of Captain, Field Artillery and Foreign Area Officer, Wisconsin Army Reserve National Guard and US Army Reserve

SPECIAL COURSES:

Western Michigan University Center of Depreciation Studies -
Course II, Fundamentals of Life Estimation

Lincoln Institute of Land Policy -
Course 229, Appraisal of Gas and Electric Utilities

SPEECHES

1999-2020 Branko Terzic has given almost 500 speeches in over 31 U.S. states and 18 countries. See attachment.

Numerous speeches were also given 1972-1999 in particular while serving as a Commissioner on the WPSC.

ILLUSTRATIVE PUBLICATIONS: (Numerous speeches quoted in trade publications not listed here)

Book Chapters and Contributions

GLOBAL STRATEGIC ASSESSMENT, 2009 **Institute for National Strategic Studies** Editor Patrick M. Cronin, National Defense University Press, Washington, DC 2009)

The World Crisis: The Way Forward After Iraq (in US by Skyhorse Publishing 2008) editor Robert Harvey chapter on energy by Branko Terzic.

White Papers

Energy independence and security; A reality check
A part of Deloitte's *Making America Stronger* series, October 2012

Regular Columns

“Terzic on Strategy” ENERGY METRO DESK monthly, continuation in 2009 of a regular bi-weekly column since 1999 in electric power and power trading bi-weekly publications New Power Executive and The Desk

“Commentary by Branko Terzic” regular column in **EUROPEAN ENERGY REVIEW**, since 2007 www.europeanenergyreview.eu

Selected Articles published in trade publications:

“Gas Ban as Confiscation of Property”

September 2020 Public Utilities Fortnightly

“COVID-19 As Not Unique But New Generic Problem”

Horizons Spring 2020 No. 16

“Innovation Requires Capital Recovery Recognition”

August 2019 Natural Gas & Electricity (Wiley Periodicals)

“Storm, Rate, Insurance: Entire Economy Pays Price”

PUF 2.0 Mid-January 2018

“Regulatory Strategy and Tactics”

July 2017 Public Utilities Fortnightly

“Innovation and Capital Recovery”

November 2016 Public Utilities Fortnightly

“American Mergers: Doing the two-step!”

NOV/DEC 2015 WORLD GEN magazine

“The US Energy Picture in the 21st Century” with Spencer Abraham,

October 2015 HORIZONS: Journal of international Relations and Sustainable Development,

"Decoupling Coupling: The Ratemaking Dilemma"

September 22, 2015 *International Energy Investment*

“Managing under regulation: above all else”

September 20, 2015 *EnergyBiz*

“Broken Utilities, how to fix them”

September 11, 2015 *Energy Post*

“10 Myths”

July-August 2013 ELECTRIC PERSPECTIVES

“History repeats itself: a guide from 30 years ago”

September 2009 OIL AND GAS FINANCE JOURNAL

“The Future of Conventional Fuels”

October 2009 OIL AND GAS FINANCIAL JOURNAL

“Regulators and Risk: Deloitte’s 2009 Survey of State Regulators”

May 2009 EEI ELECTRIC PERSPECTIVES

“Regulatory Strategy and Tactics”

July 2017 Public Utilities Fortnightly

“Innovation and Capital Recovery”

November 2016 Public Utilities Fortnightly

“American Mergers: Doing the two-step!”

NOV/DEC 2015 WORLD GEN magazine

“The US Energy Picture in the 21st Century” with Spencer Abraham,

October 2015 HORIZONS: Journal of international Relations and Sustainable Development,

"Decoupling Coupling: The Ratemaking Dilemma"

September 22, 2015 *International Energy Investment*

“Managing under regulation: above all else”

- September 20, 2015 *EnergyBiz*
“The electricity challenge of the 21st century”
June 2007 POWER magazine
- “The Economics of Climate Change: The Stern Review”**
August 2007 AMERICAN GAS magazine
- “100 Years of Regulation”**
July 24, 2007 Milwaukee Journal Sentinel newspaper (with George Edgar)
- “Global Regulation: Exporting America to the World”**
February 2007 *Public Utilities Fortnightly* (with Gregory Aliff)
- “The ABCs of Regulation”**
February 2007 *Public Utilities Fortnightly* (with Gregory Aliff)
- “The Russians Are Coming”**
July-August 2006 *EnergyBiz* (w Rebecca Ranich)
- “North America: A Step in the Right Direction”** in THE WORLD ENERGY BOOK
August 2006 The Petroleum Economist Ltd. London, UK
- “Reinventing The Classic Business Strategy”**
December 2005 *Public Utilities Fortnightly* (w David Fornari)
- “New energy law to influence mergers”**
Nov/Dec 2005 ENERGY/BIZ Magazine (with Robert Robinson)
- “Lessons Learned From the L.A. Blackout”**
November 2005 *Public Utilities Fortnightly* (w Greg Aliff)
- “A Lost Art?”**
November./December 2004 Electric Perspectives (w Gregory Aliff)
- “European Infrastructure: Billions Needed in Investment”**
February 2004, *Public Utilities Fortnightly* (w Thomas J. Flaherty)
- “Today’s Electric Power Grids”**
Winter 2003/2004 *The National Interest* (with Gregory Aliff)
- “Investment in Russia: Superpower”**
February 1, 2003 *Public Utilities Fortnightly* (w James Balaschak)
- “Distribution Companies of the Future”**
December 2002 *IEEE Power Engineering Review*
- “U.S consumers less aware of energy issues”**
December 2002 *Electric Light & Power* (w Gregory Aliff)
- “Germany Taking The Lead in Electricity and Gas”**
January 15, 2000 *Public Utilities Fortnightly* (w/ B. Wurm & Y. Dietrich)
- “Restructuring Models for the Gas Industry”**
March 1999, *Natural Gas Magazine*
- “Restructuring Models for the Gas Industry”**
March 1999, *Natural Gas Magazine*
- “Restructuring, My Way” (Electric Industry Commentary)**
February, 1, 1999 *Public Utilities Fortnightly*
- “The New Energy Deal: Simplicity and Savings”**
First Quarter 1999, *Deregulation Watch*, Quarterly Report
- "Incentive Regulation: Efficiency in Monopoly"**
Winter 1994, *Natural Resources & Environment*
- "Incentive Regulation and Regulatory Forbearance: Appropriate Responses to the Ever-Competitive Market Place?"**

October 1992, Incentive Regulation: The New Regulatory Compact (Proceedings and Papers 1992)

EXNET

Public Utilities Reports, Inc.

The Management Exchange

Interview: **"Commissioner Terzic Encourages Adoption of Incentive Ratemaking Techniques by Regulators"**

October 1992, In Your Interest (published by Minnesota Utility Investors, Inc.)

"The Future of Independents"

October 1992, Institutional Investor

"Gazing Into the Post-Order 636-A Natural Gas World"

August 31, 1992, The Oil Weekly

"FERC's Role Matches Changing Environment"

Spring 1991, The Investors' Voice

(published by Wisconsin Utility Investors, Inc.)

"FERC's Role in Utility Mergers"

1991, Utilities Mergers & Acquisitions (Proceedings and Papers 1991)

Public Utilities Reports, Inc.

The Management Exchange

"Gas in Britain: Regulation of a Privatized Former State Monopoly"

with James McKinnon

May 26, 1988, Public Utilities Fortnightly

"Reflections on the Regulatory Process"

December 25, 1986, Public Utilities Fortnightly

Video Presentations:

Broadcast appearances as industry expert on the CNN International, Fox Business and other networks. McNeil Lehrer News Hour (US PBS), host of C.A Turner Utility Reports Video Journal, Bloomberg News Service, Jefferson Energy Foundation Video programs and others

AWARDS:

Energy Efficiency Forum inductee HALL OF FAME

June 15, 2009 Energy Efficiency Forum, National Press Club, Washington, DC

WCEE 2008 "Champion" Award

February 6, 2008 Women's Council on Energy and Environment, Washington, DC

Natural Gas Roundtable Appreciation Award 2002

December 17, 2002 Natural Gas Roundtable, Washington DC

Distinguished University Graduate 1999

Commencement May 1999 University of Wisconsin - Milwaukee

VITAE, The Honorable Branko Terzic. ... 11

Distinguished Service Award

October 5, 1993

James C. Bonbright Utility Center, University of Georgia

Achievement Award for Founding of the Society

November 21, 1991

Society of Depreciation Professionals

State of Wisconsin Certificate of Congratulations

November 16, 1990

Governor Tommy Thompson

Wisconsin Racing Board Resolution

November 16, 1990

Wisconsin Racing Board

Citizen of the Year 1989

May 1, 1989

Greater Milwaukee Legal Auxiliary

Resolution of Commendation

June 18, 1987

National Conference of Regulatory Utility Commission Engineers

Honorary Kentucky Colonel

April 7, 1983

Governor John Y. Brown

Branko Terzic REGULATORY AND COURT TESTIMONY

Before the State of Delaware Public Service Commission, prepared direct testimony on behalf of the Delaware Public Service Commission 1975 Subject: Depreciation rates for nuclear power plant

Before the Virgin Islands Public Service Commission, prepared direct testimony on behalf of the ITT Virgin Islands Telephone Company 1976 Subject: Depreciation rates

Before the Federal Energy Regulatory Commission, prepared testimony on behalf of the State of Wisconsin Public service Commission as a member of the Commission, 1985 Subject: FERC Rulemaking

Before the Idaho Public Service Commission, prepared direct testimony of behalf of the Intermountain Gas Company, 1990, Subject: Depreciation rates

Before the Arizona Corporation commission, prepared rebuttal testimony on behalf of the Citizens Utilities Company, PGA E-1032-93-111, 1994, Subject: regulatory policies

Before the Minnesota Public Utilities Commission, prepared direct testimony on behalf of Minnegasco (Arkla) G-008/GR-93-1090, June 1994, Subject: Affiliate regulatory policy

Before the Utah Public Service Commission, prepared rebuttal testimony for Questar Gas Company, Doc 98-057-12, April 26, 1999, Subject: Pipeline gas quality

Before the Utah Public Service Commission, prepared rebuttal testimony on behalf of Questar Gas, Doc 99-057-20, May 24, 2000, Subject: CO2 removal costs and gas policy

Before the Wisconsin Public Service Commission, prepared testimony on behalf of Wisconsin Power & Light Company (Alliant Energy), CPCN No. 6680-CE-176, 2015 Subject: New powerplant options,

Before the Arizona Corporation Commission, filed written testimony on behalf of the Arizona Investment Council, APS Docket E-01345A-16-0036, December 21, 2016, Subject: Electric rates

Before the Idaho Public Utilities Commission, prepared direct testimony on behalf of Intermountain Gas Company, Case No. INT-G-16-02, August 12, 2016, Subject: Cost of service and rate design

Before the Idaho Public Utilities Commission, prepared rebuttal testimony on behalf of Intermountain Gas Company, Case No. INT-G-16-02, February 15, 2017, Subject: Cost of service and rate design

Before the Michigan Public Service Commission, prepared rebuttal testimony on behalf of the Upper Peninsula Power Company, Case No. U-18467, July 17, 2018, Subject: Depreciation policy

Before the United States Bankruptcy Court for the District of Delaware, prepared testimony on behalf of Platte River Midstream LLC, DJ South Gathering LLC and Platte River Holdings and Grand Mesa Pipelines, LLC in Extraction Oil & Gas Inc. Case No. 20-11548, October 1, 2020, Subject: FERC practice in determination of the “public interest”

Before the Federal Energy Regulatory Commission, filed direct testimony of behalf of ETC Rover LLC Rover Pipeline LLC Dockets No. RP20-1233-000, October 17, 2020 Subject: Abrogation of FTSA

Before the United States Bankruptcy Court for the Southern District of Texas, Houston Division, prepared testimony on behalf of ETC Tiger Pipeline LLC in Chesapeake Energy Corporation et al Case No. 20-33233 Chapter 11, October 21, 2020 Subject: FERC practice in determination of “public interest”

Before the Federal Energy Regulatory Commission, filed rebuttal testimony of behalf of ETC Rover LLC Rover Pipeline LLC Dockets No. RP20-1233-000, October 26, 2020 Subject: Abrogation of FTSA

Before the United States Bankruptcy Court for the District of Delaware, prepared testimony on behalf of Platte River Midstream LLC, DJ South Gathering LLC and Platte River Holdings and Grand Mesa Pipelines, LLC in Extraction Oil & Gas Inc. Case No. 20-11548, October 27, 2020, Subject: FERC practice in determination of the “public interest”

LEGISLATIVE TESTIMONY

Before the United States House of Representatives, Committee on Energy and commerce, Subcommittee on Energy and Power, May 7, 1987 testified on behalf of self, Subject: Electric utility regulation

Before the United States House of Representatives, Committee on Ways and Means, testified on behalf of self, October 4, 1989 Subject: H.R. 2493 and H.R. 1150 Utility Refund Act

Before the United States Senate, Committee on Energy and Natural Resources, testified on behalf of self, September 28, 1990 Subject: Nomination to be a Member of the Federal Energy Regulatory Commission (FERC)

Before the United States Senate, Committee on Energy and Natural Resources, testified on behalf of self, October 2, 1991 Subject: Nomination to be a Member of the FERC

Before the House of Representatives,, Committee on Government Operations States, Subcommittee on Environment, Energy and Natural Resources, representing self as Commissioner FERC, January 16, 1992, Subject: Review of Ex Parte matters

Before the United States House of Representatives, Subcommittee on Energy and Natural Resources, March 3, 1993, testified as a FERC Commissioner, Subject: Electric industry issues

Before the United States Senate Committee on Labor Issues, testified o behalf of self, March 22, 1994, Subject HB 1405

Before the United States House of Representatives, Subcommittee on Energy and Mineral Resources, 2004, testified on behalf of self, Subject: Energy supply

Branko Terzic Speeches 1999-2021

1999

1. September 1, 1999 DTCE Electric Seminar, Four International Trends in Electricity, Prague, Czech Republic
2. September 9, 1999 IBM Electric Utility Seminar, Business Transformation for Electric Utilities, Karlovy Vary. Czech Republic
3. September 30, 1999 The FINANCIAL TIMES PJM Power Markets Conference, Changing Industry, Philadelphia, PA
4. October 19, 1999 Capital Area Energy Association Seminar, Reregulation of Electricity Markets, Washington, DC
5. October 28, 1999 PowerMart '99 Conference, Applying Drucker in Electric Utility competition", Houston, TX
6. November 15, 1999 EXNET Utility Directors Workshop, The Future of gas and Electric Companies: Is Convergence the Only Answer, Naples, FL
7. December 13, 1999 MPR Annual Business Planning Meeting, Engineers and Power, Washington, DC
8. December 17, 1999 University of Minnesota 1999 Symposium, Electric Choice, Minneapolis, MN

2000

9. February 3, 2000 Energy Bar Association seminar, Pipes & Wires Strategies, Washington, DC
10. February 14, 2000 Royal Society For the Encouragement of Arts, commerce & Manufacture Annual lecture Series, Energy & the Consumer: lessons from the 20th century, London, United Kingdom
11. March 3, 2000 Milwaukee Area Chamber of Commerce Energy Forum 2000, Changes and Opportunities in Electric and Gas Industries", Milwaukee, WI
12. May 3, 2000 American Gas Association and National Association of Regulatory Utility Commissioners Committee on Accounting annual meeting, Natural gas For the 21st Century, Washington, DC
13. June 6, 2000 New York Power Markets Conf., New York, NY
14. June 8, 2000 National Economists Club, Electric Restructuring , Washington DC
15. June 15, 2000 Natural Gas Roundtable, European gas Trends, Washington, DC
16. June 28, 2000 Workshop for CONEL, Competitive Markets, Bucharest Romania
17. July 10, 2000 Natural gas Summit, Roadmap to the Future, Colorado Springs, CO
18. September 8, 2000 Workshop on Privatization, Valuation of Electric Utilities, Podgoritza, Montenegro
19. September 27, 2000 National Association of Water Companies, M&A In the Water Industry, Boston, MA
20. September 28, 2000 Utility Women's leadership Conference, M&A Winners and Losers, Arlington, VA
21. October 13, 2000 18th Annual ELCON conference, Selling and Buying Gas, Washington, DC

2001

22. October 18, 2000 National Press Conference, Deloitte Consumer Opinion Survey Press conference, Washington DC
23. October 27, 2000 Foreign Service Institute, US Dept. of State, US Liberalization of Electric Markets, Arlington, VA
24. November 14, 2000 Rockford Institute Center for International Affairs, Business prospects in New Yugoslavia, Washington, DC
25. November 16, 2000 FPL Client Seminar, Inside FERC Order 2000, Juno Beach, FL
26. November 29, 2000 National Association of Regulatory Utility Commissioners-Department Of Energy North American Summit, Vision for the Summit, Dallas, TX
27. December 7, 2000 Croatian Electric Company "HEP" Supervisory Board Presentation on the California Energy Crisis, Zagreb, Croatia
28. December 19, 2000 Global Resources Group Training program, How Deregulation Works, Prague, Czech Republic
29. January 24, 2001 Briefing Kiplinger editorial Board, Energy Deregulation, Washington DC
30. February 5, 2001 Polish Power Grid Co. Supervisory Board, briefing California Energy Crisis, Warsaw, Poland
31. February 6, 2001 Polish Utility regulatory Agency briefing California Energy crisis, Warsaw, Poland
32. February 26, 2001 US Energy Association and US Agency for International Development staff, California Energy Crisis, Washington, DC
33. March 2, 2001 State Power Corporation of China and Bank of China delegations, International Restructuring, New York, NY
34. March 8, 2001 Greater Milwaukee Chamber of Commerce 2001 Energy Symposium, The World-wide Energy Picture, Milwaukee, WI
35. March 15, 2001 Duane, Morris & Public Affairs Management LLC Energy in New Administration Conference, World Utility Challenges, Washington, DC
36. March 29, 2001 Edison Electric Institute Conference and Exposition, Core Utility Business, Chicago, IL
37. April 4, 2001 ENEKON 2001 Conference, Multi-Utility Perspectives, Prague, Czech Republic
38. April 6, 2001 State Legislative Leaders Foundation Third International Leadership Issues Conference , International Investment in Electricity infrastructure, Cologne, Germany
39. April 10, 2001 USAID Electricity Management Development Institute & Polish Power Grid Company, California's Electric System Crisis, Warsaw, Poland
40. April 10, 2001 USAID EMDI State of Electricity Restructuring, Warsaw Poland
41. April 12, 2001 USAID EMDI Romanian Executives Briefing, California Crisis, Bucharest Romania
42. April 12, 2001 USAID EMDI Romanian Executive Briefing, Status of US Electric Restructuring, Bucharest Romania

43. April 20, 2001 Center for Advancement of Energy Markets, commentary at Distribution Company of the Future Forum
44. April 24, 2001 Deloitte China Staff training, Principles of Regulation, Beijing China
45. April 25, 2001 China State Council Office for Restructuring Economic Systems' International Symposium on Restructuring and Regulation of China's Electricity Industry, International Restructuring, Beijing, China
46. April 27, 2001 Yugoslav Waterworks Association Water Conference, Trends in Water, Belgrade, Yugoslavia
47. May 3, 2001 Yugoslav Regulation Seminar "Utility Operations", Belgrade, Yugoslavia
48. May 3, 2001 Yugoslav Regulation Seminar "Principles of Regulation", Belgrade Yugoslavia
49. June 11, 2001 System Integration Conference, New Network Industries, Prague, Czech
50. June 26, 2001 Capital Group Companies Board of directors, Do we have a US Energy vision or not? Washington, DC
51. August 2, 2001 American Legislative Exchange Council 28th Annual Meeting, Energy for the New Century, Washington, DC
52. August 21, 2001 Deloitte Northeast Utility conference, California Energy Crisis, President's Energy Plan, Absecon, NJ
53. September 10, 2001 Electricity Transmission Conference 2001, Streamlining Transmission Build, Arlington, VA
54. September 22, 2001 Maryland- EDC Utilities Association 77th Fall Conference, Future of deregulation, Ocean City, ND
55. September 24, 2001 North American gas Supply Symposium, The One and Only deregulation, Houston, TX
56. October 26, 2001 US Foreign Service Institute / Business Council for International Understanding (BCIU) Power Generation Training Program, Intro to the Electricity Sector, Arlington, VA
57. November 2, 2001 New England – Canada Business Council, 9th Annual US-Canada Energy Trade & technology Conference, Do Energy markets Work, Boston, NA
58. November 27, 2001 Restructuring Polish Power Conference, Value and International Energy Development, Warsaw Poland

2002

59. February 19, 2002 ENERKON 2nd Congress, Regulation and Valuation, Prague, Czech
60. April 18, 2002 New Jersey Association of Energy Engineers Annual Conference, A brief view of World Energy, Woodbridge, NJ
61. April 25, 2002 Energy Regulators Regional Association, First Investment Conference, Investment Opportunities and Barriers: The Effect of Government Policy, Budapest, Hungary
62. June 4, 2002 US Energy Association, US AID Energy Industry partnership program Executive Exchange, Restructuring in the US, Boston, MA

2003

63. January 8, 2003 NCAC International Association for Energy Economics, 2003 Power Markets, Washington, DC
 64. January 14, 2003 New Jersey Resources Board Dinner, Current Issues, Trenton, NJ
 65. February 5, 2003 EEI/DOE Russia Electricity Markets, Houston, TX
 66. February 14, 2003 CERA Week / International Regulators Roundtable, Houston, TX
 67. March 13, 2003 Energy Bar Association Chapter, New York, NY
 68. March 18, 2003 New Mexico Institute of Public Utilities, Santa Fe
 69. March 31, 2003 Global Power Conference, New Orleans, LA
 70. April 11, 2003 MMAC 6th Annual Energy Symposium, Milwaukee WI
 71. April 22, AABE, Philadelphia PA
 72. May 8, 2003 ERRRA Annual Energy, Budapest, Hungary
 73. June 11, 2003 3rd Balkan power Conference, Sinaia, Romania
 74. August 17, 2003 Deloitte Northeast Utility Conference, Absecon, NJ
 75. October 5, 2003 World Forum on Energy Regulation, Rome Italy
 76. June 18-20, 2003 Deloitte Energy Conference presentation D&T Survey of Investor Confidence
 77. June 30, 2003 Standard & Poor's 2003 Utility & Energy seminar, Restructuring the Electric Industry, New York, NY
 78. July 1, 2003 Mid-American Conference of Regulatory Utility Commissioners 8th Annual Convention, Standard Market Design, Hot Springs, WV
 79. July 29, 2003 NARUC Summer Committee meetings, Ring fencing Techniques and Affiliate Abuse Issues, Denver, CO
 80. July 31, 2003 Energy Summit 2003, Regulatory benchmark in gas, Rio de Janeiro, Brazil
 81. September 8, 2003 Society of Depreciation Professionals, 17th Annual Meeting, FERC Update, Jackson Hole, WY
 82. September 16, 2003 North American Energy Standards Board 2nd Annual Meeting, Energy Market Place: Then and Now, Austin, TX
 83. September 22, 2003 SEAROR, Regulatory issues, Pinehurst, NC
 84. October 23, 2003 Business Council for International/ Foreign service Institute, Understanding Power Generation Training program, Regulation of US Electric Industry, Arlington, VA
 85. November 16, 2003 National Association of Regulatory Utility Commissioners 115th Annual convention, Committee on International Relations, International Regulatory Trends, Atlanta, GA
- 2004
86. March 25, 2004 Deloitte GEM's Training Week, US Federal Energy policy, San Jose, CA
 87. March 31, 2004 Electric Power 2004 Conference & Exhibition, Power Industry Trends to 2010, Baltimore, MD
 88. April 2, 2004 Metropolitan Milwaukee Chamber of commerce Energy Symposium 2004, National Regulatory Goals for Electricity, Milwaukee, WI
 89. April 29, 2004 Hong Kong Regulatory conference, Luncheon keynote, Hong Kong, China

90. May 25, 2004 Deloitte Energy conference, Foreign investment: The Next wave, Washington, DC
91. June 9, 2004 U.S. Russia Business Council Power Sector Seminar, What is needed to advance reform, Washington DC
92. June 15, 2004 Mid-American Conference of Regulatory Utility Commissioners Annual Meeting, Electric and Gas company Financial, Madison, WI
93. June 16, 2004 US Energy Association 15th Annual Energy efficiency Forum, Market versus Mandate, Washington DC
94. July 28, 2004 Center for the Advancement of Energy Markets 5th Anniversary Dinner, Keynote Testimonial, Washington, DC
95. August 11, 2004 Securities & Exchange Commission / Deloitte Training session, Economic Characteristics of regulation, Washington, DC
96. September 15, 2004 North American Energy Standards Board Annual meeting, Austin TX
97. September 22, 2004 SCC/ LDC Seventh Annual Conference, Natural Gas, Charlottesville, VA
98. October 27, 2004 Business Council for International Understanding / Foreign Service Institute Electricity sector Training, Regulatory Models, Arlington, VA
99. November 18, 2004 National Association of Energy Supply Companies 21st Annual Conference, Global Village: Energy Intensive and Politically Volatile, Newport Beach, CA
100. November 30, 2004 Deloitte Accounting, Financial reporting & Tax Update, Industry Development, Chicago, IL
101. March 11, 2005 Federal Energy & Environmental matters Conference 2005, Energy for the 21st Century, Washington, DC
102. March 21, 2005 The Santa Fe Conference Current Issues 2005, Keeping customers satisfied-what will it take, Santa Fe, NM
103. March 31, 2005 Deloitte Energy & Resources InSIGHT Virtual Classroom, Power & Utility Industry Outlook 2005, Washington, DC
104. April 8, 2005 Metropolitan Milwaukee Chamber of Commerce Energy Symposium 2005, Back to basics, Milwaukee, WI
105. April 13, 2005 Washington Coal Club, Power Regulation, Washington DC
106. April 25, 2005 NARUC Staff Sub Committee on Accounting & Finance, The Art of The Rate Case, St. Petersburg, FL
107. April 27, 2005 International Relief and Development briefing, Electrification Vital for Developing Societies, Washington, DC
108. May 24, 2005 2005 Sempra Global Financial Teporting Conference, How regulators look at non-regulated, San Diego, CA
109. June 6, 2005 Center for Energy markets 1st Annual Convention, Washington, DC
110. June 15, 2005 US Energy Association 16th Annual Energy Efficiency Forum, Understanding the Urgency, Washington DC
111. June 30, 2005 SEE Annual Conference & Trade Show, Rate case Challenges, Baltimore, MD
112. July 26, 2005 Banc of America Securities Meet a Commissioner Day, Regulation: limiting or Enabling Strategy, Austin, TX

113. August 22, 2005 Deloitte Northeast Energy b& Utility conference, Regulator's roundtable, Absecon, NJ
114. September 28, 2005 Bordeaux Energy Colloquium, 2005 Update, Cap Ferret, France
115. October 20, 2005 University of New Haven Executive MBA leadership Forum, Energy & Strategy, West Haven, CT
116. October 25, 2005 Energy Daily/ Edison Electric Institute Conference, The FERC Agenda, Washington, DC
117. November 2, 2005 Xcel Energy executive Forum, Future Outlook for Energy Policy, Amarillo, TX
118. November 15, 2005 Xcel Energy Executive Forum II, Global Energy Outlook, Eau Claire, WI
119. November 22, 2005 Columbia University SIPA, Electric Restructuring, New York, NY
120. November 25, 2005 Deloitte Accounting, Financial Reporting & tax Update, EPA of 2005: A Decades Progress, Chicago, IL
121. December 1, 2005 Banc of America New York Credit conference, Electric Utility outlook 2006, New York, NY
122. December 8, 2005 Edison Electric Institute International Electricity Briefing Teleconference, Investor Sensitivities, Washington, DC
123. December 9, 2005 American Gas Association Rate & regulatory Issues Audio Conference, Fixed Rate Sense, Washington, DC
124. December 19, 2005 Business Council for International Understanding / Foreign Service Institute US Electric and Gas Industries, Arlington VA

2006

125. January 11, 2006 Second Carnegie Mellon Conference in Electric Power Systems, Utility Regulation Affects Pace of technology Adoption, Pittsburgh, PA
126. January 23, 2006 IEEP Advisory Committee meeting, Update on Electricity Developments, Washington, DC
127. February 9, 2006 Women's Council on Energy & Environment See The Future Conference, Future of Good Business, Washington DC
128. February 17, 2006 Johns Hopkins University SAIS Energy Club, Energy & the Consumer, Washington, DC
129. April 7, 2006 Metro Milwaukee Chamber of Commerce 2006 Energy Symposium, Rate & Cost Trends, Milwaukee, WI
130. April 24, 2006 Washington Campus Seminar Federal Regulation, Washington DC
131. May 1, 2006 Washington Campus seminar, Federal Regulation, Washington, DC
132. May 3, 2006 MidAmerican Regulatory Finance Conference, Capital Markets & Regulation, Des Moines, IA
133. May 23, 2006 The NARUC Foundation, Rethinking rate design, Columbus, OH

134. June 5, 2006 CONGRESSIONAL QUARTERLY “Summit on Energy Exploration” (Virginia Beach, VA)
135. June 14, 2006 National Energy Efficiency Forum, panel moderator and commentator (Washington DC)
136. June 22, 2006 “Sweit Energii” World of Energy seminar (Warsaw, Poland)
137. August 21, 2006 Deloitte NEUC Commissioners’ Panel moderator and commentator (Absecon, NJ)
138. Sep 7, 2006 CONGRESSIONAL QUARTERLY “Summit on Energy Exploration” (Washington, DC)
139. Sep 15, 2006 Bordeaux Energy Colloquium (Bordeaux, France)
140. October 5, 2006 Bonbright Public Utilities Center Conference, Panel moderator and commentator (Atlanta, Georgia)
141. October 11, 2006 World Energy Forum, Panel moderator “Roundtable on Investment in Energy Infrastructure” (Washington, DC)
142. October 25, 2006 Electric Power Supply Association Regulatory Conference Panel Moderator and commentator
143. November 29, 2006 UN Economic Commission for Europe (UNECE), Chairman, Panel moderator and speaker Geneva Switzerland

2007

144. January 31, 2007 GOVERNING magazine speech “Expanding Energy Resources in a Warming World” National Press Club, Washington, DC
145. February 8 Columbia University lecture to the Graduate School “Principles of Utility Ratemaking” New York, NY
146. February 22, 2007 US Energy Association/ US Department of State briefing on “Role of Regulator” for Republic Tajikistan Deputy Prime Minister and delegation
147. March 5, 2007 US Energy Association/World Energy Council commentator at “Nuclear Power Europe” briefing with Andre Callie, WEC Chairman
148. March 13, 2007 Department of Energy/US Energy Association Briefing “Carbon Sequestration: The Way Forward” guest commentator on regulation, Washington DC
149. March 19, 2007 speech “Regulation and Investment” UN Economic Commission for Europe Committee on Sustainable Energy meeting of Committee of Ad Hoc Experts, Geneva Switzerland
150. March 23, 2007 briefing for World Energy Council directors on RSA’s Carbon Limited carbon trading program London, UK
151. March 26, 2007 Roundtable participant for Blank Rome LLC “Climate Change and Energy Policy” Washington, DC
152. April 9 Deloitte live broadcast “DBrief” with Joseph Stanislaw on “The Impact of the New Congress on the Energy Industry” Washington, DC
153. April 26 Congressional Quarterly magazine speaker for Energy & Climate Change program Washington, DC
154. April 24, 2007 lecture on “Distribution Regulation” for CEZ client executives visiting US Washington DC

155. April 27, 2007 speech Sino-US Energy & Market Development Conference Houston, TX
156. May 9, 2007 speech Boeing Company 13th Annual Energy Resources and Conservation Conference Houston, TX
157. June 4, 2007 speech Canadian Embassy for Canada – US Relations conference “Climate Change Initiatives”
158. June 11, 2007 four lecture on 4 topics for the State Electricity Regulatory Commission of China, Beijing, China
159. June 13, 2007 summary speech at the Energy Efficiency Forum, National Press Club Washington, DC
160. June 19, 2007 speech at 3rd World Energy Council North American Regional Forum, Halifax, Nova Scotia Canada
161. June 27, 2007 dinner speech North American Energy Standards Board Austin Texas
162. July 24, 2007 speaker at the 100th Anniversary Wisconsin Public Service Commission, Madison WI
163. July 25, 2007 speaker for Canadian Electricity Association meeting on “Depreciation Primer” via teleconference
164. July 26, 2007 speech at USEA for Regional Electricity Market Study Tour Central Asia delegations: Kazakhstan, Kyrgyzstan, Tajikistan
165. August 20, 2007 panel moderator Deloitte’s Northeast Utility and Energy Conference Seaview, NJ
166. September 7, 2007 speaker Deloitte regional training Las Vegas, NV
167. September 17, 2007 Keynote speech “Energy & Consumers: lessons for the 21st century” for annual convention of the International Association for Energy Economics in Houston, TX
168. September 20, 2007 lecture EEI/ AGA Beyond the Board Room “Federal Regulation”
169. October 3, 2007 speech “Homage to Professor Bonbright” at the annual conference Bonbright Utilities Center of the University of Georgia, Atlanta Georgia
170. October 4, 2007 lecture on “regulation” for Thailand Pipeline for Robert Svoboda and GE
171. October 18, 2007 lecture at Hamline University “Efficiency” Minneapolis, MN
172. October 24, 2007 briefing for PA PUC Chairman and staff on energy in Balkans Harrisburg, PA
173. November 6, 2007 Wisconsin Public Utility Institute: Decoupling Conference moderator. Madison, WI also Web broadcast
174. November 27, 2007 Opening speech at UN ECE meeting of Ad hoc Group of Experts on Clean Electricity production Geneva, Switzerland
175. November 28, 2007 Panel speech UN ECE Special Session: Investing in and Financing the Hydrocarbon Sector to Enhance Global Energy Security
176. December 12, 2007 introduction of Dr. Joseph Stanislaw at NAESB Board dinner Houston, TX

177. January 9, 2008 speaker on “Clean Energy” British-American Business Association luncheon Washington DC
178. February 5, 2008 speech on “Regulatory Issues” at U.S. Department of Commerce Conference “Powering Our Low Carbon Future” Washington, DC
179. February 6, 2008 acceptance speech Women’s Conference on Energy and Environment Annual Dinner “Champion” Award at the Willard Hotel Washington, DC
180. February 11, 2008 speech “The Future of Midwest Energy; Coping with Climate Change”, Wisconsin Politics, Madison WI
181. February 12, 2008 “Scenarios for Green Energy in the Americas”, Investment Roundtable participant sponsored by the Inter-American Development Bank, Washington, DC
182. February 17, 2008 NARUC International Committee Meeting panel on “China”, Washington, DC
183. February 28, 2008 briefing Pennsylvania Public Utility Commission NARUC/USIAD Partnership program
184. March 5, 2008 RKS Seminar “Putting Energy Efficiency to Work” Dallas-Fort Worth International Airport, TX
185. March 6, 2008 Council on Competitiveness Energy Workshop (Deloitte is corporate sponsor) Westfields, VA
186. March 7, 2008 Northeastern University EMBA lecture ENERGY AND REGULATION -- WHAT THE BUSINESS COMMUNITY SHOULD KNOW, Ronald Reagan International Center, Washington, DC
187. March 13, 2008 speaker Deutsche Bank Institutional Investor luncheon for Adam Sieminski, Washington, DC
188. March 20, 2008 speaker National Real Estate Investment Trust “Sustainability” panel Scottsdale, AZ
189. March 28, 2008 speaker Deloitte Canadian Power & Utilities training Webcast for Jane Allen (Toronto, CA)
190. March 31, 2008 keynote speaker Deloitte’s Southeast Public Utility Accounting Workshop, Doral Miami FL
191. March 13, 2008 panelist International Energy Agency, US DOE Carbon Capture Workshop Washington, DC
192. April 10, 2008 dinner speech 40th Forum of the Society of Utility Regulatory and Financial Analysts at Georgetown University, Washington DC
193. April 16, 2008 panelist Enterprise Resource Management Symposium Chicago, IL
194. April 18, 2008 speech and press conference “NPC Hard Truths: Global Energy”, Serbian-American Center, Belgrade Serbia
195. April 21, 2008 speech for Energy Regulators Regional Association (Eastern Europe) assigned topic “How Have Current Incentives Worked for Renewable Investment” 7th ERRA Energy Investment and Regulation Conference, Budapest, Hungary
196. April 24, 2008 speech Deloitte Energy & Resources Update for Greater Washington, “Challenges and Opportunities for Power & Utilities”
197. May 1, 2008 speech for the Energy Bar Association’s Annual Meeting, Ronald Reagan International Center, Washington DC

198. May 14, 2008 panel moderator International Energy Agency, Carbon Capture Regulators workshop Paris, France
199. May 19, 2008 Deloitte 2008 Energy Conference, Survey Press Conference Washington, DC
200. May 20, 2008 panel moderator "Regulation" Deloitte Energy Conference
201. June 3-4, 2008 Competitiveness Council III, "Discover Demand Drivers for Sustainable Energy Solutions-Suppliers" Airlie, VA
202. June 5, 2008 panelist/ speaker Ontario Electric Policy Workshop, Toronto, Canada
203. June 5, 2008 dinner remarks Deloitte Canada energy dinner
204. June 11, 2008 speaker Energy Efficiency Forum, Washington, DC
205. July 24, 2008 speech NARUC *"The Implications of Climate Change Policy for State Regulators: A Practical Guide"* Portland OR
206. August 7, 2008 speaker Interstate Natural Gas Pipeline Association of America (INGAA) Rockport, Maine
207. August 11, 2008 panel on "The 2008 Political Landscape" Deloitte Northeast Utility & Energy Conference, Seaview, NJ
208. August 12, 2008 moderate panel "Regulator's Roundtable: A Focus on Renewable Energy" NEUC Seaview, NJ
209. September 11-15, panelist Bordeaux Energy Colloquium Cap Ferrat, France
210. September 19, 2008 luncheon speaker "IT and Energy" Information Technology Industry Council luncheon Washington, DC
211. September 29, 2008 training for Pipelines Denver, CO
212. September 30- October 1, 2008 lecturer for University of Wisconsin Executive Education for CMS Corp, South Haven. MI
213. October 3, 2008 speaker "Challenges of a Dynamic Energy Economy" National Council of Minorities in Energy Washington, DC
214. October 22, 2008 briefing for Deloitte new global energy partners New York, NY
215. October 23, 2008 remarks at CRO dinner Deloitte clients and prospects Houston, TX
216. October 28, 2008 lecture Edison Electric Institute "Beyond the Boardroom" briefing for corporate directors, Washington, DC
217. October 30-31, 2008 speaker at Council on Competitiveness Workshop: Risk Intelligence and Resilience, DuPont Hotel Wilmington, Delaware
218. November 10, 2008 presenter for McDermott Will & Emery Energy & derivatives web broadcast on "FERC and CFTC" Washington, DC
219. November 12, 2008 speech Ontario Energy Association, Toronto, Canada
220. November 17-18, 2008 opening remarks speaker/Chairman UN ECE Ad Hoc Group of Experts on Cleaner Electricity production from Coal and Other Fossil Fuels Meeting in Geneva, Switzerland
221. December 1, 2008 speech at US Energy Association "Combined Heat & Power" seminar Washington, DC
222. December 4, 2008 comments at Deloitte Energy & Resources event National Press Club

2009

223. December 5, 2008 speaker Wisconsin Public Utility Institute, Madison, WI
224. December 9, 2008 speaker Toronto Forum for Global Cities topic of “Energy a Key Component of a City’s Competitiveness” Toronto, Ontario Canada
225. December 10, 2008 panel moderator Deloitte Oil & Gas Conference Houston, TX
226. December 19, 2008 speech Edison Electric Institute International Committee Meeting in Washington, DC
227. January 23, 2009 training lecture Deloitte Consulting utilities 101
228. February 15, 2009 speaker National Association of Regulatory Utility Commissioners Winter Meeting International Committee, Washington, DC
229. February 16, 2009 panel speaker Edison Electric Institute luncheon at NARUC Winter Meetings, Washington DC
230. March 27, 2009 speaker Columbia University Energy Symposium New York, NY
231. March 20, 2009 video conference Deloitte’s “Books with Branko”, McLean, VA
232. April 1, 2009 speaker Deloitte’s Northeast E&R learning Summit, New York, NY
233. April 3, 2009 speaker Women in International Trade (WIT) and Women’s Council on Energy & Environment Sustainability Committee, USEA Washington DC
234. April 7, 2009 speaker panel Carbon Trade-Ex America Washington, DC
235. April 10, 2009 lecturer WCEE “101” Lecture on Understanding the Public Utility Washington, DC
236. April 20, 2009 Commissioner Survey Press conference, Washington DC
237. April 27, 2009 panel member EEI E-Forum on “Cost of Capital” Internet based
238. April 28, 2009 speaker EEI International Committee German Feed-In Tariff, Washington DC
239. April 30, 2009 speaker Illinois State University Energy Conference Springfield, IL
240. May 14, 2009 opening comments UN ECE AHGE Geneva, Switzerland
241. May 16, 2009 acceptance speech Chancellor’s Reception UW-M Milwaukee, WI
242. May 17, 2009 Commencement speech #1 University of Wisconsin Milwaukee Commencement Milwaukee, WI
243. May 17, 2009 Commencement speech #2 University of Wisconsin Milwaukee
244. May 19, 2009 panelist 1:00 PM Customer Services Week/UtiliPoint Conference
245. May 19, 2009 speaker 3:45 PM Customer Services Week/UtiliPoint Conference Washington DC

246. May 27, 2009 speech AGA Foundation for gas CEO's in Washington DC
June 10. 2009 Washington Campus
247. June 10, 2009 EEI FORUM Rate School web lecture on "Performance
Based Ratemaking" Washington, DC
248. June 16, 2009 lecture Maxwell School of Syracuse University on "Obama
Administration Energy Policy"
249. August 11, 2009 keynote The 2009 Green Building Summit, Richmond
VA co-sponsored by Virginia Tech
250. August 11, 2009 moderate panel on Policy 2009 Green Building Summit
251. August 17, 2009 IQPC speech IQPC Conference Smart Grid, Washington
DC
252. August 18, 2009 Deloitte NEUC panel moderator Jersey City, NJ
253. August 19, 2009 speech and panel moderator Smart Grid Implementation
Summit McLean, VA
254. August 31, 2009 keynote speech World Energy Forum/ United Nations
New York, NY
255. September 3-7, 2009 panel at Bordeaux Energy Colloquium, Cap Ferret,
France (on planning committee)
256. September 10, 2009 panelist CLEAN TECH conference Boston, MA
257. September 13, 2009 speech American Gas Foundation Board meeting,
Williamsburg, VA
258. September 18, 2009 panelist NARUC International Program Serbian
Regulators Luncheon, Washington DC
259. September 28, 2009 lecture on Revenue Requirement for Johns Hopkins
University SAIS and Amer. Assoc. Energy Economists
260. September 28, 2009 speech update WORLD CRISIS at Washington
Campus book event National Press Club, Washington, DC
261. October 5, 2009 commentator CERA Fueling America's Future Workshop
Washington, DC
262. October 6, 2009 lecture to executive MBA program Hunan University,
Washington, DC
263. October 6, 2009 welcome remarks to Washington Energy Diplomats
luncheon, USEA Washington, DC
264. October 18-21, 2009 panel moderator World Forum on Energy
Regulation, Athens Greece (on planning committee)
265. October 26-27, 2009 speaker AGS/EEI Beyond The Boardroom program
Washington, DC
266. October 30, 2009 speaker Rural Utilities Administration / Cooperative
Finance Corporation executive seminar Herndon, VA
267. November 4, 2009 moderator Deloitte/ Ballard & Spahr FERC compliance
webinar, webcast
268. November 6, 2009 speaker University of Michigan- Global Operations
Conference, Ann Arbor Michigan
269. November 9, 2009 panelist Eisenhower Strategy Forum, Washington DC
270. November 13, 2009 speaker Deloitte P&U Trends and Developments web
cast

271. November 18, 2009 opening remarks UN ECE Ad Hoc Committee
Geneva, Switzerland
 272. November 19, 2009 report to UN ECE Committee on Sustainable Energy,
Geneva, Switzerland
 273. November 30, 2009 lecture Johns Hopkins University, School of
Advanced and International Studies – “COS and Rate design”
 274. December 1, 2009 speaker Empower Ideas Top 10 (Deloitte Canada)
webcast
 275. December 2, 2009 panel Energy Advisory Council of the NEW
AMERICA FOUNDATION Washington DC
 276. December 8, 2009 facilitator and discussion leader Deloitte Oil and Gas
Institute - The Woodlands, Texas
 277. December 9, 2009 panel moderator, Deloitte Oil & Gas Conference The
Woodlands, TX
 278. December 9, 2009 press conference Deloitte Oil & Gas Conference
- 2010
279. January 11, 2010 speaker INFOCAST Projects & Money Conference New
Orleans, LA
 280. January 14, 2010 Eisenhower Forum, Lotos Club, New York NY
 281. February 10, 2010 Charlotte, NC
 282. March 4, 2010 speech National Association of Manufacturers Board of
Directors meeting, California
 283. March 22, 2010 Deloitte speech SEPAUW Orlando, FL
 284. March 23, 2010 moderator for panel Natural Gas Roundtable Washington,
DC
 285. April 22, 2010 speech for Cooperative Finance Corporation CEO
Roundtable New York, NY
 286. June 7-8, 2010 Deloitte Energy Conference
 287. June 7-8, 2010 Deloitte Energy Conference
 288. June 10, 2010 speech annual convention Cooperative Finance Corporation
Forum Philadelphia, PA
 289. June 16, 2010 speech The Atlantic Council Prague, Czech
 290. June 20, 2010 speech International policy Group Brussels, Belgium
 291. June 29, 2010 speech Syracuse University Graduate School, Washington,
DC
 292. August 1, 2010 speech Alliant Corp. Board of Directors meeting
 293. August 10, 2010 speech Green Buildings, Richmond VA
 294. August 11, 2010 briefing Deloitte Chiefs of Staff meeting, Washington
DC
 295. August 13, 2010 speech Valve Manufacturers Assoc., San Francisco, CA
 296. September 8, 2010 speech US DOE CHP conference
 297. September 11, 2010 speech Georgetown University Energy conference
 298. September 14, 2010 moderator UNECE AHGE & E8 World Energy
Conference Montreal Canada
 299. September 20, 2010 TV interview POLITIKA Belgrade, Serbia
 300. September 23, 2010 panel moderator Deloitte Northeast Utility & Energy
Conference Jersey City, NJ

301. September 27, 2010 keynote speaker Society of Depreciation Professionals Saint Louis, MO
 302. September 27, 2010 workshop leader SDP training St. Louis, MO
 303. September 30, 2010 moderator Deloitte Alternative Energy conference Dallas, TX
 304. October 5, 2010 training PSEG CFO, Newark, NJ
 305. October 7, 2010 Books with Branko, Washington DC
 306. October 12, 2010 speech Carnegie Endowment “Natural Gas” Washington, DC
 307. October 13, 2010 summary report US Department of Energy / US Energy association CHP Dialogue San Francisco, CA
 308. October 20, 2010 speaker DBRIEF on Smart Grid Washington DC
 309. November 17, 2010 summary report US Department of Energy / US Energy association CHP Dialogue Houston, TX
 310. November 21-23, 2010 opening speech UN ECE Ad Hoc Group of Experts, Geneva, Switzerland
 311. November 24, 2010 report to the UN ECE Committee on Sustainable Energy
 312. November 30, 2010 keynote Deloitte Fall Accounting, Financial reporting and Tax Update seminar Chicago,
 313. December 10, 2010 Books with Branko interview with Lord Lawson “A Call to Reason: A Cool look at Global warming.”
- 2011
314. January 13-16, 2011 Le Cercle panelist international policy meeting New York, NY
 315. January 27, 2011 speech Argus Crude Summit, Houston, Dallas, TX
 316. February 13, 2011 speech NARUC International Committee, Washington, DC
 317. March 8, 2011 ICER International Gas Union Workshop Washington, DC
 318. March 10, 2010 speech Petrobras Investor Conference, Philadelphia, PA
 319. March 10, 2011 welcome remarks Petrobras regional supplier conference, Philadelphia, PA
 320. March 17, 2011 moderator Deloitte Energy Book Club “Books with Branko”, Washington, DC
 321. March 28-29, 2011 Intro presentation UN ECE Geneva, Switzerland
 322. March 30, 2011 moderator DOE/USEA Combined Heat and Power Conference Washington, DC
 323. April 4, 2011 speech Deloitte Canada Knowledge East, Toronto, Canada
 324. April 4, 2011 Ontario Power Generation briefing Toronto
 325. April 5, 2011 Ontario Energy Board speech Toronto, Canada
 326. April 5, 2011 speech Women in Energy, Toronto, Canada
 327. April 7, 2011 panelist Smart Grid conference University of Texas, Austin, TX
 328. April 28-29, 2011 Deloitte Oil & Gas College global speech, Houston, TX
 329. May 10, 2011 speech CFC Auditors Conference , Reston, VA
 330. May 12, 2011 opening remarks UN ECE meeting Geneva, Switzerland
 331. May 19, 2011 moderator Deloitte Energy conference, Washington, DC

332. June 2, 2011 e8 / UN Global Summit, UN New York
333. June 6, 2011 Deloitte Canada Summit, Toronto, CA
334. June 7, 2011 SNL Energy Power Policy Forum, keynote speaker New York, NY
335. June 15, 2011 Deloitte Books with Branko broadcast Washington, DC
336. June 23, 2011 Syracuse University Graduate program guest lecture, Washington DC campus
337. July 25, 2011 Women in Nuclear Conference, speech St. Louis, MO
338. July 27, 2012 CMS Energy Training, lecture, Lansing, MI
339. September 2, 2011 Georgetown University Energy Conference Washington, DC
340. September 11, 2011 Northeast Independent Power Producers, speech Union, Washington
341. September 16, 2011 Ontario Energy Association annual convention speaker, Niagara Falls, Canada
342. September 21, 2011 Deloitte Alternative and Renewable Energy Seminar, Scottsdale, AZ
343. September 22, 2011 Speech PG&E Forum San Francisco, CA
344. September 23, 2011 Deloitte Books with Branko Broadcast
345. September 26, 2011 Johns Hopkins University School of Advanced and International Studies (SAIS) lecture I Public Utility Revenue Requirement, Washington DC
346. September 27, 2011 Women in Nuclear - DC Chapter, Washington, DC
347. October 3, 2011 Johns Hopkins University SAIS lecture Cost of Service and Rate Design II, Washington DC
348. October 4, 2011 Deloitte Books with Branko Washington, DC
349. October 5, 2011 Hunan University & Chamber of Commerce Delegation (China) Washington Campus Washington, DC
350. October 13, 2011 BP Executive Dinner and Roundtable Discussion, Washington DC
351. October 19, 2011 University of Texas Energy Poll release, introduced as advisor Washington, DC
352. October 25, 2011 AGA-EEI Beyond the Boardroom lecture for new Directors, Washington, DC
353. October 30, 2011 World Energy Council Houston Business Forum, Houston Texas
354. November 14, 2011 UN ECE Ad Hoc Committee, speech, Geneva, Switzerland
355. November 18, 2011 Croatian Energy Association 20th Forum Zagreb, Croatia
356. November 22, 2012 International Press Freedom Dinner, Argus Media, Guest New York, NY
357. December 9, 2011 Deloitte Books with Branko Broadcast
358. December 19, 2011 International Association for Energy Economics- National Capitol Chapter, speech, Washington, DC
359. January 7, 2012 Awakening, Energy speech, Charleston, SC

2012

360. January 12, 2012 Washington Campus, lecture, University of Texas and Emory University, Washington, DC
361. January 25, 2012 Energy Central Webcast - EnergyBiz Leadership Series Washington, DC
362. February 2, 2012 University of Texas Energy Forum, “National Energy Policy – The Search Continues” opening comments and panel, Austin TX
363. February 3, 2012 “Friday Caucus” An interview conference call on “Current Issues in Regulation” with State PSC Commissioners, Washington, DC
364. February 24, 2012 “Energy 101” lecture for Deloitte Consulting, McLean, VA
365. March 15, 2012 Washington Campus, Washington, DC
366. April 11, 2012 New York Times “Energy for Tomorrow: Fueling a Global Economy”, panel member, The Times Center, New York, NY
367. April 26, 2012 National Environmental Balancing Bureau Annual Conference “Building a Bridge to The Future” Anaheim, CA
368. May 3, 2012, Washington Campus, Washington DC
369. May 11, 2012 National Grid – lecture and training New York, NY
370. May 22, 2012 Deloitte Energy Conference panel moderator, Washington DC
- 371.
372. June 13, 2012 AGA/ Georgetown Law School Executive Leadership Development Program lecturer, Washington, DC
373. June 14, 2012 Energy Efficiency Forum, Wrap-Up Speech, Washington DC
374. July 13, 2012 Books with Branko author interview Ken Green
375. July 18, 2012 Deloitte Briefing Integrated Generation, moderator, Washington DC
376. July 25, 2012 The Atlantic Council roundtable comments Washington, DC
377. August 7, 2012 Energi, Inc. Moderator on Webcast, Washington, DC
378. August 15, 2012 Energy Collective, webcast, Washington, DC
379. September 6, 2012 Energy Collective comments on webcast Washington, DC
380. September 7, 2012 Deloitte AERS E&R lunch and learn Houston, TX
381. September 10, 2012 Deloitte Northeast Energy & Utility conference, Panel Moderator, Newark, NJ
382. September 11, 2012 Webinar “Energy Risk and End of Coal”
383. September 19, 2012 Deloitte Alternative Energy Conf, Panel Moderator, Phoenix, AZ
384. October 18, 2012 Consulting Engineer magazine Chicago, IL
385. October 31, 2012 Georgia Tech University, “Energy Independence” panel, Atlanta, GA
386. November 8, 2012 George Washington University “Clean Tech” Class lecture, Washington DC
387. November 11, 2012 NARUC Subcommittee on Electricity – Energy Independence and Security – speech Baltimore, MD

2013

388. November 13, 2012 Deloitte Oil & Gas Conference, Panel Moderator
Houston, TX
389. November 14, 2012 The Atlantic magazine and The National Journal joint
Energy Roundtable, Newseum, Washington, DC
390. November 28, 2012 Council on Foreign Relations Luncheon Moderator
with EIA Administrator Adam Sieminski, Washington, DC
391. January 10, 2013 lecture, Washington Campus, Washington DC
392. January 11, 2013 lecture, Washington Campus, Washington DC
393. January 21, 2013 Lecture, Webster University Geneva, Switzerland
394. January 22, 2013 Chairman and Presiding officer, UN Economic
Commission for Europe Natural Gas Roundtable, Geneva Switzerland
395. January 31, 2013 Deloitte Japan Nuclear Forum, Tokyo Japan
396. February 8, 2013 lecture, Milwaukee School of Engineering Energy
Engineers Chapter, Milwaukee, WI
397. February 8, 2013 lecture University of Wisconsin – Milwaukee College of
Engineering, Milwaukee, WI
398. February 27, 2013 Presentation US Energy policy, visiting Romanian
Delegation, Washington DC
399. March 12, 2013 Lecture, MBA class Purdue University, Washington
Campus, Washington DC
400. March 13, 2013 BP Roundtable Discussion and Dinner, Washington, DC
401. March 27, 2013 presentation Books with Branko, Washington, DC
402. April 19, 2013 panelist Society of Utility Regulatory Financial Analysts
annual convention, Indianapolis, IN
403. May 2, 2013 National Environmental Balancing Bureau Annual
Convention, keynote speech, Montreal, Quebec Canada
404. May 7-8, 2013 Canadian Association of Members of Public Utility
Tribunals Annual Convention CAMPUT Keynote speech, Niagara Falls,
Ontario, Canada
405. May 10, 2013 University of Michigan Carson Scholars lecture
Washington Campus, Washington DC
406. May 15, 2013 speech for National Rural Utilities Cooperative Finance
Corp., Dulles, VA (attest client)
407. May 16, 2013 Washington Campus, Washington DC
408. May 21-23 Deloitte Energy Conference Washington, DC
409. June 4, 2013 panel on Natural Gas Power Sector, Center for Climate and
Energy Solutions Natural Gas Report Launch, Washington, DC
410. June 12-13, 2013 Energy Efficiency Forum, summary speaker,
Washington DC
411. July 28, 2013 US Association for Energy Economics Annual Convention,
Anchorage AL
412. September 19-20, 2013 Deloitte Alternative & Renewable Energy
conference, panel moderator, Phoenix, AZ
413. October 3, 2013 American Gas Association, Energy market Regulation
Conference , Princeton Club, New York, NY

414. October 21, 2013 The International Conference on Thermal Treatment Technologies & Hazardous Waste Combustors (IT3/HWC) KEYNOTE speech San Antonio, TX
415. June 4, 2013 panel on “Leveraging Natural Gas to Reduce Greenhouse Gas Emissions”, Center for Climate Change and Energy Solutions, Washington, DC
416. June 13, 2013 Energy Efficiency Forum, summary speaker “Energy Efficiency in New Energy Economy”, Washington DC
417. June 14, 2014 Deloitte Power & Utilities Simulation, Dallas TX
418. July 10, 2013 WCEE Opower Co. event introduction, Washington DC
419. July 28, 2013 US Association for Energy Economics Annual Convention, Anchorage AL
420. August 7, 2013 Webinar, Distributed Generation, Center for Climate and Energy Solutions, Washington, DC
421. September 11, 2013 Ontario Energy Association Energy Conference 2013, Panel Speaker, Toronto, CA
422. September 12, 2013 George Washington University School of Business “Intro to the Electric Utility Industry” Washington, DC
423. September 19-20, 2013 Deloitte Alternative & Renewable Energy conference, panel moderator, Phoenix, AZ
424. September 25, 2014 Washington Campus, China MBA’s, Washington, DC
425. October 3, 2013 American Gas Association, Energy Market Regulation Conference, “Natural Gas Regulation”, Princeton Club, New York, NY
426. October 8, 2013 Brookings Global Electricity and Technology Roundtable, panelist, Washington DC
427. October 21, 2013 The International Conference on Thermal Treatment Technologies & Hazardous Waste Combustors (IT3/HWC) keynote speech “Energy Independence and Security” San Antonio, TX
428. November 5, 2013 North Carolina Sustainable Energy Association annual conference keynote “Energy and Security” Raleigh, NC
429. November 12, 2013 UN ECE / Global Sustainable Electricity Partnership High-Level Dialogue on Strengthening Public Private Partnerships for Sustainable Energy and Energy Efficiency, Belgrade, Serbia
430. November 20, 2013 “Energy Independence and Security” Houston Chapter of the U.S. Association for Energy Economics, Houston TX

2014

431. January 9, 2014 Washington Campus, “Energy Policy” MBA students, Washington, DC
432. January 10, 2014 Washington Campus, “Energy Policy” MBA students, Washington DC
433. February 28, 2014 Greater Philadelphia Chamber of Commerce program “Energizing Our Region” panel Philadelphia, PA\
434. March 6, 2014 Grand Valley State University, Indiana University, Northeastern University, University of Michigan, University of Maine,

- University of Texas at Austin, The Washington Campus MBA program
“Energy Policy” Washington DC
435. March 13, 2014 The Washington Campus MBA program “Energy Policy”
Washington DC
436. March 14, 2014 The Washington Campus MBA program “Energy Policy”
Washington DC
437. March 18, 2014 National Association of Energy Service Companies,
keynote Federal Market Workshop, Washington DC
438. March 26, 2014 Singapore Economic Development Board briefing,
Washington, DC
439. March 26, 2014 Dept. of Defense 2014 Peace and Stability Operations
Training and Education Workshop, “Importance of Regulation” George Mason
University, Fairfax, VA
440. March 31-April 1, 2014 Deloitte SEPUAW Conference, Keynote Speech,
Orlando, FL
441. April 24, 2014 Society of Utility Regulatory Financial Analysts annual
convention, plenary panel “The Regulatory Compact Revisited”, Indianapolis,
IN
442. April 25, 2014 Society of Utility Regulatory Financial Analysts
convention panel “Distributed Energy Resources - Impact on the Regulatory
Compact”, Indianapolis, IN
443. April 29, 2014 Brookings Global Electricity and Technology Roundtable,
Washington, DC
444. May 13, 2014 Deloitte Energy Conference panel, Washington DC
445. January 5, 2015 National Rural Electric Cooperative Association, Legal
Department Briefing “Electric Issues” Arlington, VA
446. January 27, 2015 New York University School of Law, Natural Gas
Symposium, speech “The Future of LNG”, New York, NY
447. February 18, 2015 Natural Gas Supply Association (NGSA) Annual
Member, San Antonio, TX
448. March 6, 2015 The Energy Council, speech “LNG Impact”, Washington,
DC
449. April 30, 2015 Brookings Institution Global Electricity and Technology
Roundtable, Member, Washington, DC
450. May 5, 2015 EEI Economics Policy Advisory Group. Speech, “Redefining
the Regulatory Compact” Washington, DC
451. May 22, 2015 NARUC EIPSC Webinar “What’s Happening to
Baseload?” Panelist, Washington, DC
452. June 2, 2015 The Atlantic Council Energy Task Force, comments on
“Electricity: Policy Options for the US and Abroad, Financing, Grid
Modernization and Renewables Integration”, Washington, DC
453. June 11, 2015 NRECA Rural Summit “Physical Infrastructure, Energy and
Environment” Comments as Expert Observer, Washington, DC
454. July 15, 2015 National Rural Utilities’ Cooperative Finance Corporation
(CFC) , speech “The 21st Century Energy Customer”, Dulles, VA
455. September 20, 2015 Society of Depreciation Professionals, Training
Workshop, lecturer “Rate Regulation”, Austin, TX

456. October 21, 2016 Atlantic Council – Washington, DC Panelist on program on the launch of AC report titled “*Transforming the Power Sector in Developing Countries*”
457. October 27, 2016 George Washington University – Class lecture Washington DC
458. April 12, 2017 The FERC's Anti-Market Manipulation Rule: Trends and Developments, Speech, Washington, DC
459. June 6, 2017 NRU CFC Forum Regulatory Panel, Washington, DC
460. July 10, 2017 U.S. Department of State - Electricity 101, lecture, Washington, DC
461. July 11, 2017 NRU Cooperative Finance Corporation, Annual Accounting Conference, Dulles, VA
462. August 14, 2017 U.S. Department of State - Morocco Clean Energy - International Visitor leadership Program, Lecture, Washington, DC
463. September 11, 2017 SDP Annual Conference, speaker, San Diego, CA
464. October 31, 2017 Bilateral Chamber – Turkish Delegation "Gas Hubs" lecture, Washington, DC
465. December 5, 2017 SNL 2017 Utility Regulation Conference, Panelist, Washington, DC
466. January 23, 2018 Harvard Energy Policy Group 89th Plenary Session, panelist, Palm Beach, FL
467. February 14, 2018 Wisconsin Electric Power Cooperative Association Legislative event, speech Madison, WI
468. March 5, 2018 National Labor and Management Public Affairs Committee LAMPAC, speech, Washington DC
469. April 19, 2018 SURFA 50th Financial Forum, panel, New Orleans, LA
470. June 26, 2018 World Gas Conference Panel "The Forces Driving Regulatory Change in Natural Gas Markets" Washington, DC
471. September 2018, CYBER Conference, speech, Belgrade Serbia
472. April 2, 2019 Atlantic Council-Emirates Global Aluminum Energy briefing, Washington, DC
473. April 11, 2019 Center for Climate and Energy Solutions (C2ES), Business Environmental Leadership Council (BELC) Speech, Washington DC
474. April 16, 2019 S&P Utility Regulation Conference, Speaker, Washington, DC
475. May 9, 2019 National Governors’ Association Bootcamp for New Energy Policy Advisors, Lecture, Arlington, VA
476. July 22, 2019 Dept. of State FSO Power lecture, Washington, DC
477. September 17, 2019 Society of Depreciation Professionals, Annual Conference speech, Philadelphia
478. October 22, 2019 AGA EEI Beyond-the-Boardroom lecture, Washington, DC
479. October 24, 2019 Energy Risk Summit, Speech, Houston, TX
480. December 11, 2019 NAESB, Annual meeting dinner speech, Houston, TX
481. February 12, 2020 S&P Federal Power Roundtable, Panelist New York, NY
482. March 11, 2020 Empower Energy, FERC 101, Bethesda, MD

- 483. July 21, 2020 AGA 43th Legal Forum, (Virtual) Panel, Washington, DC
- 484. July 22, 2020 SDP Open Mic Solar & Battery Storage, lecture, (virtual), Washington, DC
- 485. August 5, 2020 SDP Open Mic Witness training, (Virtual), Washington, DC
- 486. August 19, 2020 SDP Open Mic Stranded Investment (Virtual) Washington, DC
- 487. September 15, 2020 SDP Short Course Depreciation and Regulation, (virtual), Washington, DC
- 488. September 15, 2020 SDP Training Testifying Techniques, Panel (Virtual) Washington, DC
- 489. September 17, 2020 SDP Short Course, Depreciation and Ratemaking, (virtual) Washington, DC
- 490. September 17, 2020 SDP Short Course, Depreciation Assets in Transition, (virtual) Washington,
- 491. September 17, 2020 SDP Short Course, Current Issues Forum, (Virtual) Washington, DC
- 492. October 28, 2020 SDP Training Elective Evolution of Depreciation (Virtual) Washington, DC
- 493. October 28, 2020 S&P Annual Financing US Power Virtual Conferences Talking Politics and Presidential Election, Panel, Washington, DC

Exhibit 2

Branko Terzic

Testimony

Branko Terzic

REGULATORY AND COURT TESTIMONY

1. Before the State of Delaware Public Service Commission, prepared direct testimony on behalf of the Delaware Public Service Commission 1975 Subject: Depreciation rates for nuclear power plant
2. Before the Virgin Islands Public Service Commission, prepared direct testimony on behalf of the ITT Virgin Islands Telephone Company 1976 Subject: Depreciation rates
3. Before the Federal Energy Regulatory Commission, prepared testimony on behalf of the State of Wisconsin Public service Commission as a member of the Commission, 1985 Subject: FERC Rulemaking
4. Before the Idaho Public Service Commission, prepared direct testimony of behalf of the Intermountain Gas Company, 1990, Subject: Depreciation rates
5. Before the Arizona Corporation commission, prepared rebuttal testimony on behalf of the Citizens Utilities Company, PGA E-1032-93-111, 1994, Subject: regulatory policies
6. Before the Minnesota Public Utilities Commission, prepared direct testimony on behalf of Minnegasco (Arkla) G-008/GR-93-1090, June 1994, Subject: Affiliate regulatory policy
7. Before the Utah Public Service Commission, prepared rebuttal testimony for Questar Gas Company, Doc 98-057-12, April 26,1999, Subject: Pipeline gas quality
8. Before the Utah Public Service Commission, prepared rebuttal testimony on behalf of Questar Gas, Doc 99-057-20, May 24, 2000, Subject: CO2 removal costs and gas policy
9. Before the Wisconsin Public Service Commission, prepared testimony on behalf of Wisconsin Power & Light Company (Alliant Energy), CPCN No. 6680-CE-176, 2015 Subject: New powerplant options,
10. Before the Arizona Corporation Commission, filed written testimony on behalf f the Arizona Investment Council, APS Docket E-01345A-16-0036, December 21, 2016, Subject: Electric rates

Branko Terzic

Testimony

11. Before the Idaho Public Utilities Commission, prepared direct testimony on behalf of Intermountain Gas Company, Case No. INT-G-16-02, August 12, 2016, Subject: Cost of service and rate design
12. Before the Idaho Public Utilities Commission, prepared rebuttal testimony on behalf of Intermountain Gas Company, Case No. INT-G-16-02, February 15, 2017, Subject: Cost of service and rate design
13. Before the Michigan Public Service Commission, prepared rebuttal testimony on behalf of the Upper Peninsula Power Company, Case No. U-18467, July 17, 2018, Subject: Depreciation policy
14. Before the United States Bankruptcy Court for the District of Delaware, prepared testimony on behalf of Platte River Midstream LLC, DJ South Gathering LLC and Platte River Holdings and Grand Mesa Pipelines, LLC in Extraction Oil & Gas Inc. Case No. 20-11548, October 1, 2020, Subject: FERC practice in determination of the “public interest”
15. Before the Federal Energy Regulatory Commission, filed direct testimony of behalf of ETC Rover LLC Rover Pipeline LLC Dockets No. RP20-1233-000, October 17, 2020 Subject: Abrogation of FTSA
16. Before the United States Bankruptcy Court for the Southern District of Texas, Houston Division, prepared testimony on behalf of ETC Tiger Pipeline LLC in Chesapeake Energy Corporation et al Case No. 20-33233 Chapter 11, October 21, 2020 Subject: FERC practice in determination of “public interest”
17. Before the Federal Energy Regulatory Commission, filed rebuttal testimony of behalf of ETC Rover LLC Rover Pipeline LLC Dockets No. RP20-1233-000, October 26, 2020 Subject: Abrogation of FTSA
18. Before the United States Bankruptcy Court for the District of Delaware, prepared testimony on behalf of Platte River Midstream LLC, DJ South Gathering LLC and Platte River Holdings and Grand Mesa Pipelines, LLC in Extraction Oil & Gas Inc. Case No.

Branko Terzic

Testimony

20-11548, October 27, 2020, Subject: FERC practice in determination of the “public interest”

LEGISLATIVE TESTIMONY

- a. Before the House of Representatives, Committee on Government Operations States, Subcommittee on Environment, Energy and Natural Resources, representing self as Commissioner FERC, January 16, 1992, Subject: Review of Ex Parte matters
- b. Before the United States House of Representatives, Committee on Energy and commerce, Subcommittee on Energy and Power, May 7, 1987 testified on behalf of self, Subject: Electric utility regulation
- c. Before the United States House of Representatives, Committee on Ways and Means, testified on behalf of self, October 4, 1989 Subject: H.R. 2493 and H.R. 1150 Utility Refund Act
- d. Before the United States House of Representatives, Subcommittee on Energy and Natural Resources, March 3, 1993, testified as a FERC Commissioner, Subject: Electric industry issues
- e. Before the United States House of Representatives, Subcommittee on Energy and Mineral Resources, 2004, testified on behalf of self, Subject: Energy supply
- f. Before the United States Senate Committee on Labor Issues, testified o behalf of self, March 22, 1994, Subject HB 1405
- g. Before the United States Senate, Committee on Energy and Natural Resources, testified on behalf of self, September 28, 1990 Subject: Nomination to be a Member of the Federal Energy Regulatory Commission (FERC)
- h. Before the United States Senate, Committee on Energy and Natural Resources, testified on behalf of self, October 2, 1991 Subject: Nomination to be a Member of the FERC