

STATE OF INDIANA

INDIANA UTILITY REGULATORY COMMISSION

**PETITION OF NORTHERN INDIANA PUBLIC)
SERVICE COMPANY LLC PURSUANT TO IND.)
CODE §§ 8-1-2-42, 8-1-2-42.7 AND 8-1-2-61 FOR (1))
AUTHORITY TO MODIFY ITS RETAIL RATES)
AND CHARGES FOR GAS UTILITY SERVICE)
THROUGH A PHASE IN OF RATES; (2))
APPROVAL OF NEW SCHEDULES OF RATES)
AND CHARGES, GENERAL RULES AND)
REGULATIONS, AND RIDERS (BOTH EXISTING)
AND NEW); (3) APPROVAL OF A NEW SALES)
RECONCILIATION ADJUSTMENT MECHANISM;)
(4) APPROVAL OF REVISED GAS)
DEPRECIATION RATES APPLICABLE TO ITS)
GAS PLANT IN SERVICE; (5) APPROVAL OF)
NECESSARY AND APPROPRIATE ACCOUNTING)
RELIEF, INCLUDING BUT NOT LIMITED TO)
APPROVAL OF CERTAIN DEFERRAL)
MECHANISMS FOR PENSION, OTHER POST-)
RETIREMENT BENEFITS, AND LINE LOCATE)
EXPENSES; AND (6) TO THE EXTENT)
NECESSARY, APPROVAL OF ANY OF THE)
RELIEF REQUESTED HEREIN PURSUANT TO)
IND. CODE CH. 8-1-2.5.**

CAUSE NO. 45967

INDIANA OFFICE OF UTILITY CONSUMER COUNSELOR'S

**PUBLIC'S EXHIBIT NO. 3 – TESTIMONY OF OUCC WITNESS
DR. DAVID E. DISMUKES**

January 31, 2024

Respectfully submitted,



Thomas R. Harper
Attorney No 16735-53
Deputy Consumer Counselor

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1 **I. INTRODUCTION**

2 **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS?**

3 A. My name is David E. Dismukes. My business address is 5800 One Perkins Place
4 Drive, Suite 5-F, Baton Rouge, Louisiana, 70808.

5 **Q. PLEASE STATE YOUR OCCUPATION AND CURRENT PLACE OF**
6 **EMPLOYMENT?**

7 A. I am a consulting economist with the Acadian Consulting Group (“ACG”).

8 **Q. PLEASE DESCRIBE ACG AND ITS AREAS OF EXPERTISE.**

9 A. ACG is a research and consulting firm that specializes in the analysis of regulatory,
10 economic, financial, accounting, statistical, and public policy issues associated with
11 regulated and energy industries. ACG is a Louisiana-registered partnership, formed in
12 1995, and located in Baton Rouge, Louisiana.

13 **Q. DO YOU HOLD ANY ACADEMIC POSITIONS?**

14 A. Yes. I am a professor emeritus at Louisiana State University (“LSU”). Prior to my
15 retirement in January 2023, I served as a full professor, executive director, and director
16 of policy analysis at the LSU Center for Energy Studies and as a full professor in the
17 Department of Environmental Sciences and the director of the Coastal Marine Institute in
18 the LSU College of the Coast and Environment. I also served as a senior fellow at the
19 Institute of Public Utilities at Michigan State University, where I taught energy regulatory
20 staff and other utility stakeholders about principles, trends, and issues in the electric and
21 natural gas industries. I am also a Distinguished Fellow and Senior Economist with the
22 Institute for Energy Research in Washington, D.C.

1 **Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE INDIANA UTILITY**
2 **REGULATORY COMMISSION?**

3 A. Yes. My academic vitae is attached at Appendix A. It includes a list of the Indiana
4 Utility Regulatory Commission (“Commission” or “IURC”) proceedings in which I have
5 testified, a list of all my publications, presentations, pre-filed expert witness testimony in
6 other jurisdictions, expert reports, expert legislative testimony, and affidavits.

7 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

8 A. I have been retained by the Indiana Office of Utility Consumer Counselor (“OUCC”)
9 to address certain regulatory and policy issues related to the general rate case filed by
10 Northern Indiana Public Service Company (“NIPSCO” or “the Company”). I specifically
11 have been asked to address the Company’s proposed Sales Reconciliation Adjustment
12 mechanism (“SRA”).

13 **Q. WHAT ARE YOUR RECOMMENDATIONS REGARDING THE COMPANY’S**
14 **PROPOSED SRA?**

15 A. I recommend the Commission reject the Company’s SRA proposal. The SRA
16 ultimately is a solution in search of a problem since there is no record evidence showing
17 that the Company is directly experiencing significant disincentives in promoting EE.
18 Further, and more importantly, the Company does not propose expanded EE
19 commitments if the SRA is approved. The failure to directly tie expanded EE savings to
20 decoupling adoption shifts the entire performance risk of the SRA program away from the
21 Company and onto ratepayers. Overall, the proposed SRA will provide real benefits to
22 NIPSCO and its shareholders by de-risking its revenue recovery while providing no
23 corresponding benefits for ratepayers.

1 **II. SALES RECONCILIATION ADJUSTMENT MECHANISM**

2 **Q. PLEASE DESCRIBE THE COMPANY'S PROPOSED SALES**
3 **RECONCILIATION ADJUSTMENT MECHANISM.**

4 A. The proposed Sales Reconciliation Adjustment Mechanism ("SRA") is a revenue
5 decoupling mechanism, that would allow the Company to recover any revenue difference
6 between its test year revenues and actuals. This mechanism would defer the difference
7 between its monthly base rate gross margin revenues as adjusted for actual customer
8 growth and actual gross margin revenues on a monthly basis until they are assessed and
9 recovered from ratepayers.¹ The Company proposes to periodically adjust its distribution
10 service rates to recover the margin revenues per customer that fluctuate due to variances
11 in gas volumes caused by weather, energy efficiency, and conservation efforts by
12 customers.² The SRA would apply to Residential Service Rate Schedules 311 and 315,
13 and General Service Rate Schedules 321 and 325.³

14 **Q. PLEASE EXPLAIN HOW THE SRA WOULD BE CALCULATED.**

15 A. The proposed SRA is what is referred to as a revenue per customer ("RPC")
16 revenue decoupling mechanism. Under an RPC, actual average revenue per customer
17 for applicable rate schedules is periodically compared against the revenue per customer
18 amounts implied by rates approved by a regulatory authority in the most recent base rate
19 case. In this manner a utility is insulated from variation in customer natural gas usage
20 while allowing for utility revenues to still increase for increases in customer counts. The
21 Company argues that revenue decoupling mechanisms, like the proposed SRA, "break

¹ Company's Verified Petition at 15.

² Direct Testimony of John Taylor at 55:13-56:2.

³ *Id.* at 56:2-4.

1 the link” between earnings and volumes by making it so that a utility cannot increase its
2 earnings by increasing its sales volumes.⁴

3 **Q. HAVE REVENUE DECOUPLING MECHANISMS BEEN PART OF THE**
4 **RATEMAKING LANDSCAPE FOR SOME TIME?**

5 A. Yes. The advent of revenue decoupling mechanisms began in earnest in the late
6 1980’s and was boosted by inclusion as a regulatory review requirement in the Energy
7 Policy Act of 1992.⁵ During this period, revenue decoupling initiatives were driven
8 primarily by the electric utility industry, as well as many of the same energy efficiency and
9 environmental advocates promoting the mechanism today. Most revenue decoupling
10 mechanisms adopted during this period were eliminated during the electric restructuring
11 process that began in the early 1990s and accelerated through the better part of the
12 decade.

13 **Q. CAN REVENUE AND COST TRACKER MECHANISMS LEAD TO ANY**
14 **REGULATORY PROBLEMS OR DISINCENTIVES?**

15 A. Yes. Trackers of all types eliminate the positive incentives typically afforded
16 through regulatory lag. It is a basic economic fact that rational utility management has
17 little incentive to enhance efficiencies (operational and capital) if it has no effect on the
18 utility’s profits.⁶ This is precisely the situation that can arise when a utility is guaranteed
19 revenues and can pass higher costs through to ratepayers with minimal consequences
20 on sales and profits. Such an approach is completely at odds with traditional regulatory
21 principles and ratemaking practices.

⁴ *Id.* at 50:7-12.

⁵ Energy Policy Act of 1992 § 115(b)(4), Pub. L. No. 102-486.

⁶ See Alfred Kahn, *The Economics of Regulation: Principles and Institutions*, p. 48 (1988) Cambridge, MA: MIT Press: Vol. 2 (Institutional Issues).

1 **Q. HOW DOES THE PROPOSED SRA APPLY TO THIS VIEW OF COST TRACKER**
2 **MECHANISMS?**

3 A. NIPSCO's SRA proposal is imbalanced and one-sided. Under the proposal, the
4 Company will receive all the benefits while ratepayers bear all the risk. Specifically, the
5 proposal guarantees revenue recovery rather than providing an opportunity to earn those
6 revenues as a reward for quality service and cost efficiencies. The more revenues are
7 guaranteed, the more rates are in conflict with maintaining affordability.

8 **Q. HOW DO TRACKERS UNDO EFFICIENCY-CREATING INCENTIVES?**

9 A. Trackers reduce these resource efficiency incentives in two ways. First, if trackers
10 do in fact reduce the tendency for rate cases, as many of its proponents would suggest,
11 then the mechanism would reduce the potential use of disallowances in tempering bad
12 expenditure and investment decisions. Second, if utilities are given the ability to change,
13 and generally increase their rates, then the discipline typically imposed by the regulatory
14 process until a utility's next base rate case ("regulatory lag") is removed. The theory and
15 practice of public utility regulation is based upon the well-recognized observation that
16 regulatory lag gives utilities an incentive to reduce costs between rate cases and become
17 more efficient since the benefits of those efficiencies will typically inure to shareholders.⁷

18 **Q. ARE REVENUE DECOUPLING MECHANISMS OFTEN PROPOSED BY**
19 **UTILITIES IN CONJUNCTION WITH ENERGY EFFICIENCY (EE) INITIATIVES?**

20 A. Yes. Revenue decoupling is a ratemaking mechanism that is often proposed as
21 part of a broader utility EE initiative. Utilities often claim revenue decoupling is a
22 necessary component of any EE effort since the mechanism removes what is believed to

⁷ *Id.*

1 be a disincentive to reduce retail sales. Utilities also often claim that revenue decoupling
2 eliminates an inherent utility “throughput incentive” to increase sales. Importantly, in
3 Indiana utilities are permitted, by statute, recovery of all direct and indirect costs, including
4 lost revenues and any financial incentives granted by the Commission.⁸

5 **Q. HAVE YOU PREPARED AN EXHIBIT THAT DEPICTS THE CURRENT STATUS**
6 **OF REVENUE DECOUPLING ADOPTION ACROSS THE COUNTRY?**

7 A. Yes. Direct Exhibit DED-1 presents a map indicating which states have electric
8 and natural gas utility revenue decoupling. This map can distort the popularity of revenue
9 decoupling mechanisms, since it depicts information on a statewide, versus utility-
10 specific, basis. On a utility-specific basis, only 23 electric utilities, out of the nation’s 158
11 investor-owned electric utilities⁹ have an active revenue decoupling mechanism (15
12 percent of total electric utilities), and only 41 natural gas utilities nationwide, out of 147
13 investor-owned gas utilities¹⁰ have similar mechanisms (28 percent of total gas utilities).
14 This data reveals that: (a) despite a history of revenue decoupling that exceeds 30 years,
15 the number of electric and gas utilities with revenue decoupling riders is still in the
16 minority; and (b) the mere fact that a revenue decoupling mechanism has been approved
17 in a particular jurisdiction does not mean that it is appropriate for all electric and gas
18 utilities in that jurisdiction.

19 **Q. ARE THERE OTHER DETAILS ASSOCIATED WITH APPROVAL OF**
20 **DECOUPLING MECHANISMS THAT IS NOTEWORTHY?**

⁸ Indiana Code 8-1-8.5-10(g)

⁹ “Adjustment Clauses – A State-by-State Overview,” S&P Global, July 18, 2022.

¹⁰ *Id.*

1 A. Yes. As shown by Exhibit DED-2, a substantial portion of historic decoupling
2 mechanisms were approved in the late 2000's and very early 2010's. This period was
3 characterized by highly volatile and often elevated wholesale natural gas prices in which
4 the future outlook for natural gas supply was uncertain. In fact, at one time, the U.S.
5 anticipated being a net importer of natural gas supplies and several large-scale facilities
6 along the Gulf Coast and Atlantic seaboard were announced to support these large
7 imports. Energy policies during this time period were strongly oriented towards
8 encouraging greater levels of fuel switching and energy efficiency. Revenue decoupling
9 was seen as a tool to not only facilitate this transition, but to financially insulate natural
10 gas utilities from the effects of volatile natural gas markets. This circumstance simply no
11 longer exists: almost every year, the U.S. reports record levels of natural gas production,
12 relatively low natural gas prices, and low relative natural gas price volatility.

13 **Q. ARE YOU AWARE OF ANY INSTANCES WHERE A REVENUE DECOUPLING**
14 **PILOT HAS BEEN SO DISAPPOINTING THAT REGULATORS HAVE TAKEN STEPS**
15 **TO TERMINATE IT EARLY?**

16 A. Yes. As will be discussed below, the Maine Public Utilities Commission took the
17 dramatic step of opening hearings to consider the suspension of Central Maine Power's
18 ("CMP") decoupling mechanism during its trial period,¹¹ and ultimately opted to terminate
19 the decoupling mechanism at a later date, following a period of extremely poor outcomes
20 for ratepayers.¹²

¹¹ Leslie Hudson and Stephanie Seguino, *Assessing Maine's ERAM experiment*, 3 MAINE POLICY REV. at 82 (1994).

¹² *Id.* at 83.

1 **Q. HAS THE NEGATIVE INTERACTION OF DECOUPLING WITH ECONOMIC**
2 **DISRUPTIONS CAUSED OTHER REGULATORS TO PAUSE THE IMPLEMENTATION**
3 **OF PROPOSED DECOUPLING MECHANISMS?**

4 A. Yes. The Montana Public Service Commission (“MPSC”) authorized the fixed cost
5 recovery mechanism (“FCRM”) for NorthWestern Energy on a four-year pilot basis in
6 2019.¹³ In 2020, the COVID-19 pandemic caused massive economic disruptions and
7 disruptions in working conditions as more workers began to work from home. The MPSC
8 twice approved requests to delay implementation of the pilot due to the pandemic; as
9 such, the pilot was never implemented¹⁴ before the MPSC ultimately discontinued it.¹⁵

10 **Q. ARE YOU AWARE OF OTHER INSTANCES WHEREBY REGULATORS HAVE**
11 **ISSUED A WITHDRAWAL OF REVENUE DECOUPLING?**

12 A. Yes. In January 2022, the Massachusetts Department of Public Utilities (“MDPU”)
13 directed all electric distribution companies (“EDCs”) in the Commonwealth to end electric
14 revenue decoupling. The MDPU explained its decision as follows:

15 In order to pursue a clean energy future consistent with the
16 Massachusetts 2050 Decarbonization Roadmap, broad
17 electrification achieved through the Program Administrator’s
18 strategic electrification efforts combined with even more
19 significant electrification efforts outside the Three-Year Plans
20 is necessary. However, these efforts will require expanding
21 the use of electric generation and will place more stress on
22 the electric distribution system. These factors lead the

¹³ See *In the Matter of NorthWestern Energy’s Application for Authority to Increase Retail Electric Utility Service Rates and for Approval of Electric Service Schedules and Rules and Allocated Cost of Service and Rate Design*, Montana Public Service Commission, Docket No. D2018.02.012, Order No. 7604u, dated Dec. 20, 2019, p. 35, para. 105.

¹⁴ *In the Matter of NorthWestern Energy’s Application for Authority to Increase Retail Electric and Natural Gas Utility Rates and For Approval of Electric and Natural Gas Service Schedules and Rules and Allocated Cost of Service and Rate Design*, Montana Public Service Commission Docket No. 2022.07.078, Direct Testimony of Cynthia Fang (Priority Regulatory Mechanisms) at 37:2-14.

¹⁵ *Id.*, Final Order 7860y at ¶ 302.

1 Department to conclude that we must discontinue full revenue
2 decoupling for electric distribution companies.¹⁶

3 It further added:

4 The Department does not come to this decision lightly, but
5 there are many reasons that it is appropriate to make this
6 policy change immediately. First, the Department finds that it
7 is in ratepayers' best interests to no longer make the electric
8 distribution companies whole for lost sales if that is no longer
9 in line with the Commonwealth's energy policy. Second,
10 timely implementation of a transition away from revenue
11 decoupling is necessary to align the business interests of the
12 electric distribution companies to embrace strategic electric
13 load growth in a safe, reliable, affordable, and equitable
14 manner, as the Department is considering several policies to
15 advance the clean energy future. Last, implementing this
16 policy change now will shift the risk associated with changes
17 in lost revenues from customers to electric distribution
18 company shareholders, while simultaneously increasing the
19 incentive for the electric distribution companies to pursue and
20 enable electrification.¹⁷

21 **Q. IS THE PROPOSED SRA IN THIS CASE APPROPRIATE?**

22 A. No. The proposed SRA suffers from two major shortcomings: (1) it provides no
23 customer benefits; and (2) it shifts risk from Company shareholders to ratepayers.

24 **A. The Proposed SRA Provides No Customer Benefits**

25 **Q. WHAT RATIONALE DOES NIPSCO PROVIDE FOR ITS SRA PROPOSAL?**

26 A. NIPSCO states that revenue decoupling, like the proposed SRA, eliminates an
27 inherent utility incentive to increase sales by "breaking the link" between earnings and
28 volumetric sales.¹⁸ The Company furthermore argues that a benefit of the proposed SRA
29 is that the proposed mechanism is reciprocal and balanced in nature, protecting customer

¹⁶ Massachusetts D.P.U. 21-120 through D.P.U. 21-129, Order, January 31, 2022, at pp. 231-232.

¹⁷ D.P.U. 21-120 through D.P.U. 21-129, Order, January 31, 2022, at pp. 232-233.

¹⁸ Direct Testimony of John Taylor at 50:7-12.

1 bills during colder-than-normal weather and protecting utility revenues during warmer-
2 than-normal weather.¹⁹

3 **Q. IS THE COMPANY’S ARGUMENT CONCERNING BREAKING THE LINK**
4 **BETWEEN EARNINGS AND VOLUMETRIC SALES UNIQUE?**

5 A. No. Many energy efficiency (“EE”) advocates, as well as certain (but not all)
6 utilities, often argue that current regulatory pricing practices discourage utility-sponsored
7 energy efficiency programs. These advocates argue that EE reduces sales thereby
8 reducing a utility’s ability to recover its fixed costs. Revenue decoupling removes the
9 relationship between sales and revenues, and in doing so, theoretically removes the
10 claimed disincentive utilities have for promoting end-user EE.

11 **Q. DOES THE COMPANY PROPOSE TO EXPAND ITS DEMAND-SIDE**
12 **MANAGEMENT AND ENERGY EFFICIENCY OFFERS IN CONJUNCTION WITH THE**
13 **PROPOSED SRA?**

14 A. No. The Company’s proposed SRA is not tied to any expanded efforts in demand-
15 side management or energy efficiency. Indeed, the only change the Company proposes
16 to the 2024-2026 Energy Efficiency Plan associated with the SRA is removal of a limited
17 lost revenue/margin recovery mechanism currently included in the plan if the Commission
18 approves the proposed SRA.²⁰

19 **Q. PLEASE DISCUSS THE COMPANY’S HISTORIC EE PROGRAM SAVINGS?**

20 A. The Company has offered a robust portfolio of gas and electric energy efficiency
21 programs since 2007.²¹ For the five-year period 2018 through 2022, the Company states

¹⁹ *Id.* at 50:15-18.

²⁰ Direct Testimony of Robert C. Sears at 39:8-10.

²¹ *Id.* at 34:9-12.

1 that its natural gas energy efficiency programs have achieved an average savings of 110
2 percent of its savings goals with an average program budget of \$6 million per year.²² This
3 shows that the Company has been able to achieve significant EE savings under existing
4 policy, proving that the “throughput disincentive” is more of a theoretical obstacle than a
5 real obstacle to EE achievements.

6 **Q. ARE SALES DECREASES DUE TO EE THE ONLY SOURCE OF**
7 **DIFFERENCES BETWEEN TEST YEAR (ALLOWED) AND ACTUAL REVENUES?**

8 A. No. A variety of factors can influence sales between rate cases and lead to
9 situations where retail sales and revenues will differ from those observed in a utility’s test
10 year. Consider that test year retail sales and revenues in a rate case are usually based
11 upon a “typical” year, and as such, are based upon typical factors such as the weather,
12 the economy, and prices, among other things. In any given year, the actual performance
13 of the economy may differ from the test year. Weather may be colder or warmer than the
14 historical normal weather trends included in the test year, and other factors may occur in
15 any given year that impact sales differently than what was anticipated in the test year
16 determination. The differences in sales created by weather, the economy, commodity
17 prices, and other factors usually account for greater changes in revenue than those
18 resulting from utility-sponsored EE programs.

19 **Q. WOULD THE SRA ALLOW THE COMPANY TO RECOVER LOST REVENUES**
20 **FROM FACTORS NOT ASSOCIATED WITH EE OR DISTRIBUTED GENERATION?**

21 A. Yes. The SRA would allow monthly differences between actual and allowed
22 revenue per customer to be trued up for each of the applicable rate classes on an annual

²² *Id.* at 34:14-17.

1 basis. The SRA would not be adjusted to account for revenue variations that are created
2 by such factors as changes in the weather, the economy, or other factors.

3 **Q. YOU STATED ABOVE THAT THE COMPANY DOES NOT PROPOSE TO**
4 **EXPAND ITS EE OFFERINGS. WHY IS IT IMPORTANT?**

5 A. This omission is important for three reasons. First, the entire premise for the SRA
6 is to remove a disincentive to aggressively pursue EE activities. While the Company
7 currently has various EE programs, they appear to have adequate incentives in promoting
8 these programs and there are not new incremental offerings that accompany the SRA
9 proposal. Approving the SRA alone, without any new or incremental EE program
10 commitments, effectively “decouples” the problem from the solution. Second, this
11 omission shifts the entire regulatory and performance-related risk associated with the
12 Company’s future EE activities entirely onto ratepayers since there is nothing to assure
13 that the SRA, in fact, will lead to enhanced EE efforts. Third, the proposal itself suggests
14 the Company’s EE activity is not adequate, yet the Company does not quantify or provide
15 any other record evidence to show how it could be doing more than it is already doing
16 with regards to its EE service offerings.

17 **Q. EXPLAIN HOW PERFORMANCE-RELATED RISKS OF THE PROPOSED**
18 **DECOUPLING MECHANISM ARE SHIFTED AWAY FROM THE COMPANY AND**
19 **ONTO RATEPAYERS.**

20 A. The proposed SRA would allow the Company to recover lost revenues regardless
21 of the source and regardless of its EE performance. There are no penalties if the
22 Company fails to deliver its anticipated EE participation levels or savings. Yet, despite
23 this shortcoming, the SRA would still be in place insulating the Company from revenue

1 shortcomings that will have little to nothing to do with its EE activities. The SRA, therefore,
2 will be decoupling not only revenues and sales, but will also decouple utility EE
3 performance from its financial returns.

4 **Q. ARE YOU AWARE OF ANY REGULATORY COMMISSIONS THAT HAVE TIED**
5 **REVENUE DECOUPLING APPROVAL TO EFFICIENCY PROGRAM**
6 **COMMITMENTS?**

7 A. Yes. The Washington Utilities and Transportation Commission (“WUTC”), in its
8 review of extending Avista Corporation’s decoupling mechanism, found:

9 The regulatory construct for decoupling in Washington has
10 centered on the utility’s performance relative to conservation.
11 Our approval of decoupling in our two pilot programs was
12 founded on the premise that lost margins affected the utility’s
13 appetite for offering additional conservation programs. Thus,
14 both pilots required the companies to account for lost margin
15 due to conservation, and to discriminate between the various
16 causes of lost margin. In that more limited context, we
17 conclude that the recovery of lost margin attributable to
18 Avista’s programmatic and non-programmatic conservation
19 endeavors is sufficient to encourage Avista’s [Demand Side
20 Management] DSM efforts. We seek to avoid guaranteed
21 recovery of lost margin that would occur should lost margin
22 from other causes be included in the mechanism.²³

23 The WUTC reiterated this principle again in its 2010 investigation into utility
24 conservation incentives stating that “revenue recovery by the company under the
25 mechanism will be conditioned upon a utility’s level of achievement with respect to its
26 conservation target.”²⁴

²³ *Washington Utilities and Transportation Commission v. Avista Corporation, d./b./a. Avista Utilities*, Docket UE 090134 and UG 090135, consolidated, *Order 10: Final Order Rejecting Tariff Filing; Approving and Adopting Multi-Party Partial Settlement Stipulation; Deferring Lancaster Costs; Extending Decoupling Mechanism; Authorizing Tariff Filing; and Requiring Compliance Filing*, December 22, 2009. Final Order at p. 114, ¶291, emphasis added.

²⁴ *In the Matter of the Washington Utilities and Transportation Commission’s Investigation into Energy Conservation Incentives. Washington State Utilities and Transportation Commission.* Docket U-100522,

1 **Q. HAVE YOU EXAMINED NIPSCO’S HISTORIC EARNINGS?**

2 A. Yes. Exhibit DED-3 presents historic return on Equity (“ROE”) for the Company
3 for the years 2010-2022. During this period, the Company’s ROE has consistently fallen
4 between 4.20 and 7.24 percent and does not suggest any strong or pervasive
5 deterioration in the Company’s achieved ROE as a result of its EE efforts.

6 **Q. HAVE YOU EXAMINED THE RELATIONSHIP BETWEEN CHANGES IN THE**
7 **COMPANY’S USE PER CUSTOMER, TOTAL USAGE, AND REVENUES?**

8 A. Yes. That analysis is provided in Exhibit DED-4 and shows that changes in total
9 sales (usage) are a function of (1) the changes in existing customers’ average use (*i.e.*,
10 use per customer or “UPC”) and (2) the new usage arising from new customers (or
11 customer growth). If usage increases from customer growth outpace UPC decreases
12 (from existing customers), then total usage will increase. The inverse would occur if
13 usage from customer growth was less than the total decreases created by reduced use
14 per customer. If prices and costs are held constant, then earnings will continue to
15 increase if new customer-related usage growth outpaces the decrease in use per
16 customer for existing customers. The inverse would occur if new customer-created usage
17 was less than the decreases in UPC for existing customers; again, holding other factors
18 constant. Thus, the negative financial impacts of UPC decreases can be offset for a utility
19 serving a growing service territory. Utilities that serve stagnant, or very slow growing
20 service territories (in terms of customer growth), could see earnings attrition if UPC falls.
21 These relationships are based upon the premise that other factors are held constant.

22 **Q. WHAT DO THESE TRENDS SHOW FOR NIPSCO?**

Report and Policy Statement on Regulatory Mechanisms, Including Decoupling, to Encourage Utilities to Meet or Exceed Their Conservation Targets, November 4, 2010. ¶28.

1 A. Exhibit DED-4 (page 1) shows that residential UPC has declined since 2011, falling
2 from 83.1 MCF per customer in 2011 to 82.8 MCF per customer in 2022. This is an
3 average decline of 0.0004 percent per year. This will show total residential sales volumes
4 have increased from 50 million MCF in 2011 to 60 million MCF in 2022. Exhibit DED-4
5 (page 3) shows similar trends in commercial UPC and total commercial sales volumes.

6 **Q. HOW DO THESE USAGE CHANGES TRANSLATE INTO CHANGES IN**
7 **COMPANY REVENUES?**

8 A. Exhibit DED-4 (page 2) shows that declines in gas usage do not necessarily
9 translate into declining revenues. Over the past several years, the Company has seen
10 growth in its residential RPC and growth from new customers added to its system. These
11 combined elements led to strong non-fuel revenue growth per customer ranging from
12 \$261 per customer in 2011 to \$292 per customer in 2022. Exhibit DED-4 (page 4) shows
13 similar trends in commercial RPC.

14 **Q. WOULD THE SRA PROVIDE ADDITIONAL GUARANTEED RECOVERY**
15 **AMOUNTS FOR THE COMPANY?**

16 A. Yes. As previously noted, pursuant to the SRA proposal, NIPSCO desires to sever
17 the link between revenues and sales altogether. As such, the Company would face little
18 to no risk associated with revenue variability (often referred to as “business risk”).

19 **Q. HAVE OTHER REGULATORY COMMISSIONS PREVIOUSLY RECOGNIZED**
20 **THE RELATIONSHIP BETWEEN RISK REDUCTION AND A UTILITY’S AUTHORIZED**
21 **ROE?**

22 A. Yes. In denying a proposed revenue normalization adjustment by Washington Gas
23 Light, the D.C. Public Service Commission (“DC PSC”) noted its historic policy of

1 reflecting decreases in utility risk through corresponding reductions in allowed ROE.²⁵
2 Indeed, in earlier proceedings before it, the DC PSC noted that, because decoupling
3 mechanisms provide benefits such as “reduced risk” for the utility, “it is imperative that on
4 the other side of the ledger that the customers receive an offsetting benefit.”²⁶ Such
5 offsetting benefits could include “imposing [a] reduction in the utility’s ROE, imposition of
6 certain reporting requirements, establishment of specified energy efficiency performance
7 requirements and benchmarking requirements, as well as the creation of reliability
8 standards with attendant penalties for failure to meet said standards.”²⁷ Accordingly, the
9 DC PSC approved a 50 basis point reduction in ROE when approving a bill stabilization
10 adjustment “as part of the approval of the BSA to balance the ledger by providing a benefit
11 to consumers in exchange for the benefit to the Company and shareholders of reaping
12 lowered business risk.”²⁸

13 **B. SRA Shifts Risks from Company Shareholders to Ratepayers**

14 **Q. ARE THERE ANY REAL-WORLD EXAMPLES OF HOW REVENUE**
15 **DECOUPLING CAN LEAD TO SERIOUS PROBLEMS DURING AN ECONOMIC**
16 **RECESSION OR CONTRACTION?**

17 A. Yes, as referenced earlier, one of the more widely recognized failures of revenue
18 decoupling occurred in Maine during the early 1990’s. The program, known as “ERAM”
19 (“Electric Revenue Adjustment Mechanism”), was put into place for a three-year trial
20 period to encourage CMP to promote energy efficiency.²⁹ The adoption of the ERAM

²⁵ D.C. Public Service Commission *Formal Case No. 1137*, Order No. 18712 ¶¶ 229 (citing *Formal Case No. 1079*, Order No. 15738 ¶¶ 8).

²⁶ *Formal Case No. 1053*, Order No. 15556 ¶¶ 26, rel. Sept. 28, 2009.

²⁷ *Id.*

²⁸ *Id.* ¶¶ 29.

²⁹ Order, Maine Public Utilities Commission Docket No. 90-085, rel. May 7, 1991.

1 coincided with a recession that resulted in lower sales levels and substantial revenue
2 deferrals. CMP was entitled to recover these deferrals under the provisions of the ERAM
3 mechanism, which by the end of 1992 had already reached a staggering \$52 million, an
4 amount equal to more than six percent of CMP's annual revenues, causing the Maine
5 Public Utilities Commission to take the dramatic step of opening hearings to consider the
6 suspension of the ERAM during its trial period.³⁰ The ERAM was ultimately terminated
7 on November 30, 1993.³¹ In later assessing the reasons for the ERAM's failure,
8 observers noted:

- 9 • The large accruals resulted primarily from the economic recession and
10 were exacerbated by the inaccurate revenue forecast of the preceding
11 rate case, the withdrawal of the 1991 rate case filing, warm weather, and
12 the test year choice.³²
- 13 • By being shielded from the recession, CMP may not have had the same
14 incentives to operate efficiently in the way that other companies were at
15 that time.³³
- 16 • The ERAM failed in providing CMP with a sufficient incentive to pursue
17 DSM and other conservation measures.³⁴

18 **Q. ARE THERE CONCERNS THAT DECOUPLING COULD LEAD TO**
19 **SURCHARGES DURING ECONOMIC CONTRACTIONS LIKE THE ONE CREATED BY**
20 **THE COVID-19 PANDEMIC?**

21 A. Yes. As noted earlier, revenue decoupling mechanisms like the SRA allow utilities
22 to recover sales losses, including those associated with such recent sales downturns like
23 the ones created by the recent pandemic, regardless of the reason. Such an outcome is
24 particularly concerning given the large economic dislocation that arose during the crisis

³⁰ Leslie Hudson and Stephanie Seguino, *Assessing Maine's ERAM experiment*, 3 MAINE POLICY REV. at 82 (1994), <https://digitalcommons.library.umaine.edu/mpr/vol3/iss2/9>.

³¹ *Id.* at 83.

³² *Id.* at 84.

³³ *Id.* at 85.

³⁴ *Id.*

1 and the challenges many households and businesses had paying bills for basic services.
2 The proposed SRA would hold the Company harmless for revenue shortfalls resulting
3 from any exogenous event like a pandemic or economic recession.

4 **Q. CAN YOU POINT TO ANY EXAMPLES WHERE UTILITY MANAGEMENT HAS**
5 **RECOGNIZED THE REVENUE PROTECTION CHARACTERISTICS OF REVENUE**
6 **DECOUPLING?**

7 A. Yes. In late 2019, the Ohio Legislature debated an amendment to proposed
8 legislation that would allow electric utilities to adopt revenue decoupling. In an unsealed
9 federal indictment involving bribery charges it was revealed that the Chief Executive
10 Officer (“CEO”) of First Energy Corporation (a large Ohio electric utility) discussed the
11 amendment with investors, noting:

12 [Decoupling] fixes our base revenues and essentially it takes
13 about one-third of our company and I think makes it somewhat
14 recession-proof. So, I get a question a lot about where I’m
15 worried about a future recession. It’s 2 million customers in
16 Ohio that this is going to help make sure that that doesn’t
17 impact us.³⁵

18 **Q. ARE THERE ANY OTHER EXAMPLES OF UTILITY MANAGEMENT**
19 **RECOGNIZING THE RISK MANAGEMENT BENEFITS ARISING FROM REVENUE**
20 **DECOUPLING?**

21 A. Yes. In a July 30, 2020 investor earnings call just a few months after the declared
22 state of emergency concerning the COVID-19 pandemic, the Chief Financial Officer
23 (“CFO”) at AltaGas Ltd. reminded investors that a substantial portion of its regulated utility
24 earnings were “protected” through decoupling and fixed customer charges.

³⁵ Affidavit in Support of a Criminal Complaint ¶ 169, *United States v. Larry Householder, Jeffrey Longstreth, Neil Clark, Matthew Borges, Juan Cespedes, and Generation Now*, Case No. 1:20-MJ-00526 (S.D. Ohio July 21, 2020).

1 Normalized EBITDA within the Utilities segment was \$80
2 million for the quarter, slightly below Q2 2019. As I previously
3 mentioned, growth at our regulated utilities was driven by our
4 2019 settled rate cases, ARP spending and strong operational
5 execution, which was partially overshadowed by COVID-19
6 related impacts, including lower margins in our retail business.

7 As a reminder, approximately 70 percent of our regulated
8 utilities earnings are protected through decoupling and fixed
9 billing charges. In all the jurisdictions where we operate have
10 (sic) approved the creation of regulatory assets to allow for
11 the recovery of incremental costs related to COVID-19. We
12 are tracking these costs and our lost revenue due to the
13 pandemic and we will continue to work with our regulators on
14 the definition and treatment of recoverable impacts within
15 those regulatory assets.³⁶

16 **Q. HAS NIPSCO PROPOSED SUFFICIENT RATEPAYER PROTECTIONS AS**
17 **PART OF THE SRA?**

18 A. No. The Company proposes no ratepayer protection mechanisms typically
19 approved as part of a decoupling mechanism. These include a limit on annual
20 adjustments through the proposed SRA to protect ratepayers from excessive rate
21 volatility. Also, unlike other utilities that have received authorization to implement a
22 revenue decoupling mechanism, the Company has not proposed ratepayer protections in
23 the form of performance guarantees, a pilot program to first prove the promised ratepayer
24 benefits, and/or a check on over earnings. Exhibit DED-5 presents a comprehensive
25 survey of decoupling mechanisms approved in other jurisdictions and the ratepayer
26 protection mechanisms that have been approved as part of the mechanism's adoption.

³⁶ AltaGas Ltd., *Second Quarter 2020 Financial Results Conference Call*, at 11 (July 30, 2020) (emphasis added), <https://www.altagas.ca/sites/default/files/2020-08/ALA%20Transcript%20July%2030%202020%20FINAL.pdf>.

1 **III. CONCLUSION AND RECOMMENDATIONS**

2 **Q. WHAT ARE YOUR RECOMMENDATIONS REGARDING THE COMPANY'S**
3 **PROPOSED SRA?**

4 A. I recommend the Commission reject the Company's SRA proposal. The SRA
5 ultimately is a solution in search of a problem since there is no record evidence showing
6 that the Company is directly experiencing significant disincentives in promoting EE.
7 Further, and more importantly, the Company does not propose expanded EE
8 commitments if the SRA is approved. The failure to directly tie expanded EE savings to
9 decoupling adoption shifts the entire performance risk of the SRA program away from the
10 Company and onto ratepayers. Overall, the proposed SRA will provide real benefits to
11 NIPSCO and its shareholders by de-risking its revenue recovery while providing no
12 corresponding benefits for ratepayers.

13 **Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

14 A. Yes.

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EDUCATION

Ph.D., Economics, Florida State University, 1995.
M.S., Economics, Florida State University, 1992.
M.S., International Affairs, Florida State University, 1988.
B.A., History, University of West Florida, 1987.
A.A., Liberal Arts, Pensacola State College, 1985.

Master's Thesis: *Nuclear Power Project Disallowances: A Discrete Choice Model of Regulatory Decisions*

Ph.D. Dissertation: *An Empirical Examination of Environmental Externalities and the Least-Cost Selection of Electric Generation Facilities*

ACADEMIC APPOINTMENTS

Louisiana State University, Baton Rouge, Louisiana

Center for Energy Studies

2023-Current	Professor Emeritus
2014-2023	Executive Director (Retired in 2023)
2007-2023	Director, Division of Policy Analysis
2006-2023	Professor
2003-2014	Associate Executive Director
2001-2006	Associate Professor
1999-2001	Research Fellow and Adjunct Assistant Professor
1995-2000	Assistant Professor

College of the Coast and the Environment (Department of Environmental Studies)

2014-2023	Professor (Joint Appointment with CES)
2010-2023	Director, Coastal Marine Institute
2010-2014	Adjunct Professor

E.J. Ourso College of Business Administration (Department of Economics)

2006-2023	Adjunct Professor
2001-2006	Adjunct Associate Professor

1999-2000 Adjunct Assistant Professor

Michigan State University, East Lansing, Michigan

Institute of Public Utilities

2018-Current Senior Fellow

Florida State University, Tallahassee, Florida

College of Social Sciences, Department of Economics

1995 Instructor

PROFESSIONAL EXPERIENCE

Acadian Consulting Group, Baton Rouge, Louisiana

2001-Current Consulting Economist/Principal

1995-1999 Consulting Economist/Principal

Econ One Research, Inc., Houston, Texas

1999-2001 Senior Economist

Florida Public Service Commission, Tallahassee, Florida

Division of Communications, Policy Analysis Section

1995 Planning & Research Economist

Division of Auditing & Financial Analysis, Forecasting Section

1993 Planning & Research Economist

1992-1993 Economist

Project for an Energy Efficient Florida/FlaSEIA, Tallahassee, Florida

1994 Energy Economist

Ben Johnson Associates, Inc., Tallahassee, Florida

1991-1992 Research Associate

1989-1991 Senior Research Analyst

1988-1989 Research Analyst

GOVERNMENT & ADVISORY APPOINTMENTS

2023 – Current Distinguished Fellow & Senior Economist
Institute For Energy Research
Washington, D.C.

2017 -- Current Member, National Petroleum Council.
U.S. Department of Energy.

2020-2023 Co-Chairperson, Energy Advisory Committee, World Trade Center
New Orleans, Louisiana.

2007-2023	Louisiana Representative, Interstate Oil and Gas Compact Commission; Energy Resources, Research & Technology Committee.
2007-2023	Louisiana Representative, University Advisory Board Representative; Energy Council (Center for Energy, Environmental and Legislative Research).
2005	Member, Task Force on Energy Sector Workforce and Economic Development (HCR 322).
2003-2005	Member, Energy and Basic Industries Task Force, Louisiana Economic Development Council
2001-2003	Member, Louisiana Comprehensive Energy Policy Commission.

PUBLICATIONS: BOOKS AND MONOGRAPHS

1. *Energy and Environment: The Grand Challenges of 21st Century*. (2022). With Chris F. D'Elia and Bryan F. Snyder. New York: Kendell Hunt Publishers. Pp. 153.
2. *Power System Operations and Planning in a Competitive Market*. (2002). With Fred I. Denny. New York: CRC Press. Pp. 133.
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3. "Current Trends and Issues in Reforming State-level Solar Net Energy Metering Policies." (2020). *Journal of Energy Law and Resources*. Vol. VIII: 419-451.
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 8. “Sea level rise and coastal inundation: a case study of the Gulf Coast energy infrastructure.” (2018). With Siddhartha Narra. *Natural Resources*. 9: 150-174.
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 11. “Identifying Vulnerabilities of Working Coasts Supporting Critical Energy Infrastructure.” (2016). With Siddhartha Narra. *Water*. 8(1).
 12. “Economies of Scale, Learning Effects and Offshore Wind Development Costs” (2015). With Gregory B. Upton, Jr. *Renewable Energy*. 61-66.
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 14. “An Empirical Analysis of Differences in Interstate Oil and Natural Gas Drilling Activity.” (2012). With Mark J. Kaiser and Christopher J. Peters. *Exploration & Production: Oil and Gas Review*. 30(1): 18-22.
 15. “The Value of Lost Production from the 2004-2005 Hurricane Seasons in the Gulf of Mexico.” (2009). With Mark J. Kaiser and Yunke Yu. *Journal of Business Valuation and Economic Loss Analysis*. 4(2).
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 17. “Using Competitive Bidding As A Means of Securing the Best of Competitive and Regulated Worlds.” (2004). With Tom Ballinger and Elizabeth A. Downer. *NRRI Journal of Applied Regulation*. 2 (November): 69-85. (Received 2005 Best Paper Award by NRRI).
 18. “Deregulation of Generating Assets and the Disposition of Excess Deferred Federal Income Taxes.” (2004). With K.E. Hughes II. *International Energy Law and Taxation*

- Review*. 10 (October): 206-212.
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 20. "A is for Access: A Definitional Tour Through Today's Energy Vocabulary." (2001) *Public Resources Law Digest*. 38: 2.
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6. “Power System Operations, Control, and Environmental Protection in a Restructured Electric Power Industry” (1998). With Fred I. Denny. *IEEE Proceedings: Large Engineering Systems Conference on Power Engineering*. June: 294-298.
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3. “Competitive Bidding in the Electric Power Industry.” (2003). *Proceedings of the Association of Energy Engineers*. December 2003.
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10. "Asymmetric Choice and Customer Benefits: Lessons from the Natural Gas Industry." (1999). With Rachelle F. Cope and Dmitry Mesyanzhinov. *Proceedings of the International Association for Energy Economics: The Only Constant is Change* August: 444-452.
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13. "Comparing the Safety and Environmental Performance of Offshore Oil and Gas Operators." (1995). With Allan Pulsipher, Omowumi Iledare, Dmitry Mesyanzhinov, William Daniel, and Bob Baumann. *Proceedings of the 15th Annual Information Transfer Meeting*. U.S. Department of Interior, Minerals Management Service: New Orleans, Louisiana.

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1. "The Role of Distributed Energy Resources in a Restructured Power Industry." (2006). In *Electric Choices: Deregulation and the Future of Electric Power*. Edited by Andrew N. Kleit. Oakland, CA: The Independent Institute (Rowman & Littlefield Publishers, Inc.), 181-208.
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- Burke. Edited by Robert Willett. Houston, TX: Financial Communications Company, 185-205.
5. "Challenges and Opportunities for Distributed Energy Resources in the Natural Gas Industry." (2002). In *Natural Gas and Electric Industries Analysis 2001-2002*. Edited by Robert Willett. With Martin J. Collette, Ritchie D. Priddy, and Jeffrey M. Burke. Houston, TX: Financial Communications Company, 114-131.
 6. "The Hydropower Industry of the United States." (2000). With Dmitry Mesyanzhinov. In *Renewable Energy: Trends and Prospects*. Edited by E.W. Miller and A.I. Panah. Lafayette, PN: The Pennsylvania Academy of Science, 133-146.
 7. "Electric Power Generation." (2000). In the *Macmillan Encyclopedia of Energy*. Edited by John Zumerchik. New York: Macmillan Reference.

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1. Review of ***Renewable Resources for Electric Power: Prospects and Challenges***. Raphael Edinger and Sanjay Kaul. (Westport, Connecticut: Quorum Books, 2000), pp 154. ISBN 1-56720-233-0. *Natural Resources Forum*. (2000).
2. Review of ***Electricity Transmission Pricing and Technology***, edited by Michael Einhorn and Riaz Siddiqi. (Boston: Kluwer Academic Publishers, 1996) pp. 282. ISBN 0-7923-9643-X. *Energy Journal* 18 (1997): 146-148.
3. Review of ***Electric Cooperatives on the Threshold of a New Era*** by Public Utilities Reports. (Vienna, Virginia: Public Utilities Reports, 1996) pp. 232. ISBN 0-910325-63-4. *Energy Journal* 17 (1996): 161-62.

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1. "The Impact of Globalization, Decarbonization, and Politicization: Forecasting the outlook for the energy and energy transition along the Gulf Coast. *Landman* (2023, Forthcoming, Fall Edition).
2. "Opportunities for Carbon Capture, Utilization and Storage in Louisiana." (2020). *LOGA Industry Report*. Summer: 18-21.
3. "The Challenges of the Regulatory Review of Diversification Mergers." (2016). With Michael W. Deupree. *Electricity Journal*. 29 (2016): 9-14.
4. "Unconventional Natural Gas and the U.S. Manufacturing Renaissance" (2013). *BIC Magazine*. Vol. 30: No. 2, p. 76 (March).
5. "Louisiana's Tuscaloosa Marine Shale Development: Emerging Resource and Economic Potentials" (2012). *Spectrum*. January-April: 18-20.
6. "The Impact of Legacy Lawsuits on Louisiana's Conventional Drilling Activity" (2012). *LOGA Industry Report*. Spring 2012: 27-34.
7. "Value of Production Losses Tallied for 2004-2005 Storms." (2008). With Mark J. Kaiser and Yunke Yu. *Oil and Gas Journal*. Vol. 106.27: 32-26 (July 21) (part 3 of 3).
8. "Model Framework Can Aid Decision on Redevelopment." (2008). With Mark J. Kaiser

- and Yunke Yu. *Oil and Gas Journal*. Vol. 106.26: 49-53 (July 14) (part 2 of 3).
9. "Field Redevelopment Economics and Storm Impact Assessment." (2008). With Mark J. Kaiser and Yunke Yu. *Oil and Gas Journal*. Vol. 106.25: 42-50 (July 7) (part 1 of 3).
 10. "The IRS' Latest Proposal on Tax Normalization: A Pyrrhic Victory for Ratepayers," (2006). With K.E. Hughes II. *Oil, Gas and Energy Quarterly*. 55(1): 217-236
 11. "Executive Compensation in the Electric Power Industry: Is It Excessive?" (2006). With K.E. Hughes II. *Oil, Gas and Energy Quarterly*. 54(4): 913-940.
 12. "Renewable Portfolio Standards in the Electric Power Industry." With K.E. Hughes II. *Oil, Gas and Energy Quarterly*. 54(3): 693-706.
 13. "Regulating Mercury Emissions from Electric Utilities: Good Environmental Stewardship or Bad Public Policy? (2005). With K.E. Hughes II. *Oil, Gas and Energy Quarterly*. 54 (2): 401-424.
 14. "Using Industrial-Only Retail Choice as a Means of Moving Competition Forward in the Electric Power Industry." (2005). With K.E. Hughes II. *Oil, Gas and Energy Quarterly*. 54(1): 211-223.
 15. "The Nuclear Power Plant Endgame: Decommissioning and Permanent Waste Storage. (2005). With K.E. Hughes II. *Oil, Gas and Energy Quarterly*. 53 (4): 981-997.
 16. "Can LNG Preserve the Gas-Power Convergence?" (2005). With K.E. Hughes II. *Oil, Gas and Energy Quarterly*. 53 (3):783-796.
 17. "Competitive Bidding as a Means of Securing Opportunities for Efficiency." (2004). With Elizabeth A. Downer. *Electricity and Natural Gas* 21 (4): 15-21.
 18. "The Evolving Markets for Polluting Emissions: From Sulfur Dioxide to Carbon Dioxide." (2004). With K.E. Hughes II. *Oil, Gas and Energy Quarterly*. 53(2): 479-494.
 19. "The Challenges Associated with a Nuclear Power Revival: Its Past." (2004). With K.E. Hughes II. *Oil, Gas and Energy Quarterly*. 53 (1): 193-211.
 20. "Deregulation of Generating Assets and The Disposition of Excess Deferred Federal Income Taxes: A 'Catch-22' for Ratepayers." (2004). With K.E. Hughes II. *Oil, Gas and Energy Quarterly*. 52: 873-891.
 21. "Will Competitive Bidding Make a Comeback?" (2004). With K.E. Hughes II. *Oil, Gas and Energy Quarterly*. 52: 659-674.
 22. "An Electric Utility's Exposure to Future Environmental Costs: Does It Matter? You Bet!" (2003). With K.E. Hughes II. *Oil, Gas and Energy Quarterly*. 52: 457-469.
 23. "White Paper or White Flag: Do FERC's Concessions Represent A Withdrawal from Wholesale Power Market Reform?" (2003). With K.E. Hughes II. *Oil, Gas and Energy Quarterly*. 52: 197-207.
 24. "Clear Skies" or Storm Clouds Ahead? The Continuing Debate over Air Pollution and Climate Change" (2003). With K.E. Hughes II. *Oil, Gas and Energy Quarterly*. 51: 823-848.
 25. "Economic Displacement Opportunities in Southeastern Power Markets." (2003). With

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9. *Co-Principal Investigator.* Planning Grant: Engineering Research Center for Resiliency Enhancement and Disaster-Impact Interception ("READII") in the Manufacturing Sector. (2018). With Mahmoud El-Halwagi, Mark Stadtherr, Heshmat Aglan, Efstratos Postikopoulos. National Science Foundation (#1840512). Total Funding: \$100,000 (one year). Status: Completed.
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29. *Principal Investigator.* "Economic Contributions and Benefits Support by the Port of Venice." Port of Venice Coalition. Total Project: \$20,000. Status: Completed.
30. *Principal Investigator.* "Energy Policy Development in Louisiana." Louisiana Department of Natural Resources. Total Project: \$150,000. Status: Completed.
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 42. *Principal Investigator*. "Examination of the Economic Impacts Associated with Large Customer, Industrial Retail Choice." (2004). With Dmitry V. Mesyanzhinov. Louisiana Mid-Continent Oil and Gas Association. Total Project Funding: \$37,000. Status: Completed.
 43. *Principal Investigator*. "Economic Opportunities from LNG Development in Louisiana." (2003). With Dmitry V. Mesyanzhinov. Metrovision/New Orleans Chamber of Commerce and the Louisiana Department of Economic Development. Total Project Funding: \$25,000. Status: Completed.
 44. *Principal Investigator*. "Marginal Oil and Gas Properties on State Leases in Louisiana: An Empirical Examination and Policy Mechanisms for Stimulating Additional Production." (2002). With Robert H. Baumann and Dmitry V. Mesyanzhinov. Louisiana Office of Mineral Resources. Total Project Funding: \$72,000. Status: Completed.
 45. *Principal Investigator*. "A Collaborative Investigation of Baseline and Scenario Information for Environmental Impact Statements." (2002). With Dmitry V. Mesyanzhinov and Williams O. Olatubi. U.S. Department of Interior, Minerals Management Service. Total Project Funding: \$557,744. Status: Awarded, In Progress.
 46. *Co-Principal Investigator*. "An Analysis of the Economic Impacts of Drilling and Production Activities on State Leases." (2002). With Robert H. Baumann, Allan G. Pulsipher, and Dmitry V. Mesyanzhinov. Louisiana Office of Mineral Resources. Total Project Funding: \$8,000. Status: Completed.
 47. *Principal Investigator*. "Cost Profiles and Cost Functions for Gulf of Mexico Oil and Gas Development Phases for Input Output Modeling." (1998). With Dmitry Mesyanzhinov and Allan G. Pulsipher. U.S. Department of Interior, Minerals Management Service. Total Project Funding: \$244,956. Status: Completed.
 48. *Principal Investigator*. "An Economic Impact Analysis of OCS Activities on Coastal Louisiana." (1998). With Dmitry Mesyanzhinov and David Hughes. U.S. Department of Interior, Minerals Management Service. Total Project Funding: \$190,166. Status: Completed.
 49. *Principal Investigator*. "Energy Conservation and Electric Restructuring in Louisiana." (1997). Louisiana Department of Natural Resources." Petroleum Violation Escrow

Program Funds. Total Project Funding: \$43,169. Status: Completed.

50. *Principal Investigator*. "The Industrial Supply of Electricity: Commercial Generation, Self-Generation, and Industry Restructuring." (1996). With Andrew Kleit. Louisiana Energy Enhancement Program, LSU Office of Research and Development. Total Project Funding: \$19,948. Status: Completed.
51. *Co-Principal Investigator*. "Assessing the Environmental and Safety Risks of the Expanded Role of Independents in Oil and Gas E&P Operations on the U.S. Gulf of Mexico OCS." (1996). With Allan Pulsipher, Omowumi Iledare, Dmitry Mesyanzhinov, William Daniel, and Bob Baumann. U.S. Department of Interior, Minerals Management Service, Grant Number 95-0056. Total Project Funding: \$109,361. Status: Completed.

ACADEMIC CONFERENCE PAPERS/PRESENTATIONS

1. "The changing nature of Gulf of Mexico energy infrastructure." (2017). Session 3B: New Directions in Social Science Research. 27th Gulf of Mexico Region Information Technology Meetings. U.S. Department of the Interior, Bureau of Ocean Energy Management, Environmental Studies Program. New Orleans, LA. August 24.
2. "Capacity utilization, efficiency trends, and economic risks for modern CHP installations." (2017). U.S. Department of Energy, 2017 Industrial Energy Technology Conference, New Orleans, LA June 21.
3. "Vulnerability assessment of the central Gulf of Mexico coast using a multi-dimensional approach." (2016). With Siddhartha Narra. Eighth International Conference on Environmental Science and Technology. June 6-10, Houston, TX.
4. "The Impact of Infrastructure Cost Recovery Mechanisms on Pipeline Replacements and Leaks." (2015). With Gregory Upton. Southern Economic Association Meeting 2015. New Orleans, Louisiana. November 23.
5. "The Impact of Infrastructure Cost Recovery Mechanisms on Pipeline Replacements and Leaks" (2015). With Gregory Upton. 38th IAEE International Conference, Antalya, Turkey. May 26.
6. "Modifying Renewables Policies to Sustain Positive Economic and Environmental Change" (2015). IEEE Annual Green Technologies ("Greentech") Conference. April 17.
7. "The Gulf Coast Industrial Investment Renaissance and New CHP Development Opportunities." (2014). Industrial Energy and Technology Conference, New Orleans, Louisiana. May 20.
8. "Estimating Critical Energy Infrastructure Value at Risk from Coastal Erosion" (2014). With Siddhartha Narra. American's Estuaries: 7th Annual Summit on Coastal and Estuarine Habitat Restoration. Washington, D.C., November 3-6.
9. "Economies of Scale, Learning Curves, and Offshore Wind Development Costs" (2012). With Gregory Upton. Southern Economic Association Annual Conference, New Orleans, LA November 17.
10. "Analysis of Risk and Post-Hurricane Reaction." (2009). 25th Annual Information Transfer Meeting. U.S. Department of the Interior, Minerals Management Service. January 7.

11. "Legacy Litigation, Regulation, and Other Determinants of Interstate Drilling Activity Differentials." (2008). With Christopher Peters and Mark Kaiser. 28th Annual USAEE/IAEE North American Conference: Unveiling the Future of Future of Energy Frontiers. New Orleans, LA, December 3.
12. "Gulf Coast Energy Infrastructure Renaissance: Overview." (2008). 28th Annual USAEE/IAEE North American Conference: Unveiling the Future of Future of Energy Frontiers. New Orleans, LA, December 3.
13. "Understanding the Impacts of Katrina and Rita on Energy Industry Infrastructure." (2008). American Chemical Society National Meetings, New Orleans, Louisiana. April 7.
14. "Determining the Economic Value of Coastal Preservation and Restoration on Critical Energy Infrastructure." (2007). With Kristi A. R. Darby and Michelle Barnett. International Association for Energy Economics, Wellington, New Zealand, February 19.
15. "Regulatory Issues in Rate Design, Incentives, and Energy Efficiency." (2007). 34th Annual Public Utilities Research Center Conference, University of Florida. Gainesville, FL. February 16.
16. "An Examination of LNG Development on the Gulf of Mexico." (2007). With Kristi A.R. Darby. US Department of the Interior, Minerals Management Service. 24th Annual Information Technology Meeting. New Orleans, LA. January 9.
17. "OCS-Related Infrastructure on the GOM: Update and Summary of Impacts." (2007). U.S. Department of the Interior, Minerals Management Service. 24th Annual Information Technology Meeting. New Orleans, LA. January 10.
18. "The Economic Value of Coastal Preservation and Restoration on Critical Energy Infrastructure." (2006). With Michelle Barnett. Third National Conference on Coastal and Estuarine Habitat Restoration. Restore America's Estuaries. New Orleans, Louisiana, December 11.
19. "The Impact of Implementing a 20 Percent Renewable Portfolio Standard in New Jersey." (2006). With Seth E. Cureington. Mid-Continent Regional Science Association 37th Annual Conference, Purdue University, Lafayette, Indiana, June 9.
20. "The Impacts of Hurricane Katrina and Rita on Energy infrastructure Along the Gulf Coast." (2006). Environment Canada: 2006 Arctic and Marine Oilspill Program. Vancouver, British Columbia, Canada.
21. "Hurricanes, Energy Markets, and Energy Infrastructure in the Gulf of Mexico: Experiences and Lessons Learned." (2006). With Kristi A.R. Darby and Seth E. Cureington. 29th Annual IAEE International Conference, Potsdam, Germany, June 9.
22. "An Examination of the Opportunities for Drilling Incentives on State Leases in Louisiana." (2005). With Kristi A.R. Darby. 28th Annual IAEE International Conference, Taipei, Taiwan (June).
23. "Fiscal Mechanisms for Stimulating Oil and Gas Production on Marginal Leases." (2004). With Jeffrey M. Burke. International Association of Energy Economics Annual Conference, Washington, D.C. (July).

24. "GIS and Applied Economic Analysis: The Case of Alaska Residential Natural Gas Demand." (2003). With Dmitry V. Mesyanzhinov. Presented at the Joint Meeting of the East Lakes and West Lakes Divisions of the Association of American Geographers in Kalamazoo, MI, October 16-18.
25. "Are There Any In-State Uses for Alaska Natural Gas?" (2002). With Dmitry V. Mesyanzhinov and William E. Nebesky. IAEE/USAAE 22nd Annual North American Conference: "Energy Markets in Turmoil: Making Sense of It All." Vancouver, British Columbia, Canada. October 7.
26. "The Economic Impact of State Oil and Gas Leases on Louisiana." (2002). With Dmitry V. Mesyanzhinov. 2002 National IMPLAN Users' Conference. New Orleans, Louisiana, September 4-6.
27. "Moving to the Front of the Lines: The Economic Impact of Independent Power Plant Development in Louisiana." (2002). With Dmitry V. Mesyanzhinov and Williams O. Olatubi. 2002 National IMPLAN Users' Conference. New Orleans, Louisiana, September 4-6.
28. "New Consistent Approach to Modeling Regional Economic Impacts of Offshore Oil and Gas Activities in the Gulf of Mexico." (2002). With Vicki Zatarain. 2002 National IMPLAN Users' Conference. New Orleans, Louisiana, September 4-6.
29. "Distributed Energy Resources, Energy Efficiency, and Electric Power Industry Restructuring." (1999). American Society of Environmental Science Fourth Annual Conference. Baton Rouge, Louisiana. December.
30. "Estimating Efficiency Opportunities for Coal Fired Electric Power Generation: A DEA Approach." (1999). With Williams O. Olatubi. Southern Economic Association Sixty-ninth Annual Conference. New Orleans, November.
31. "Applied Approaches to Modeling Regional Power Markets." (1999.) With Robert F. Cope. Southern Economic Association Sixty-ninth Annual Conference. New Orleans, November 1999.
32. "Parametric and Non-Parametric Approaches to Measuring Efficiency Potentials in Electric Power Generation." (1999). With Williams O. Olatubi. International Atlantic Economic Society Annual Conference, Montreal, October.
33. "Asymmetric Choice and Customer Benefits: Lessons from the Natural Gas Industry." (1999). With Rachelle F. Cope and Dmitry Mesyanzhinov. International Association of Energy Economics Annual Conference. Orlando, Florida. August.
34. "Modeling Regional Power Markets and Market Power." (1999). With Robert F. Cope. Western Economic Association Annual Conference. San Diego, California. July.
35. "Economic Impact of Offshore Oil and Gas Activities on Coastal Louisiana" (1999). With Dmitry Mesyanzhinov. Annual Meeting of the Association of American Geographers. Honolulu, Hawaii. March.
36. "Empirical Issues in Electric Power Transmission and Distribution Cost Modeling." (1998). With Robert F. Cope and Dmitry Mesyanzhinov. Southern Economic Association. Sixty-Eighth Annual Conference. Baltimore, Maryland. November.

37. "Modeling Electric Power Markets in a Restructured Environment." (1998). With Robert F. Cope and Dan Rinks. International Association for Energy Economics Annual Conference. Albuquerque, New Mexico. October.
38. "Benchmarking Electric Utility Distribution Performance." (1998) With Robert F. Cope and Dmitry Mesyanzhinov. Western Economic Association, Seventy-sixth Annual Conference. Lake Tahoe, Nevada. June.
39. "Power System Operations, Control, and Environmental Protection in a Restructured Electric Power Industry." (1998). With Fred I. Denny. IEEE Large Engineering Systems Conference on Power Engineering. Nova Scotia, Canada. June.
40. "Benchmarking Electric Utility Transmission Performance." (1997). With Robert F. Cope and Dmitry Mesyanzhinov. Southern Economic Association, Sixty-seventh Annual Conference. Atlanta, Georgia. November 21-24.
41. "A Non-Linear Programming Model to Estimate Stranded Generation Investments in a Deregulated Electric Utility Industry." (1997). With Robert F. Cope and Dan Rinks. Institute for Operations Research and Management Science Annual Conference. Dallas Texas. October 26-29.
42. "New Paradigms for Power Engineering Education." (1997). With Fred I. Denny. International Association of Science and Technology for Development, High Technology in the Power Industry Conference. Orlando, Florida. October 27-30
43. "Cogeneration and Electric Power Industry Restructuring." (1997). With Andrew N. Kleit. Western Economic Association, Seventy-fifth Annual Conference. Seattle, Washington. July 9-13.
44. "The Unintended Consequences of the Public Utilities Regulatory Policies Act of 1978." (1997). National Policy History Conference on the Unintended Consequences of Policy Decisions. Bowling Green State University. Bowling Green, Ohio. June 5-7.
45. "Assessing Environmental and Safety Risks of the Expanding Role of Independents in E&P Operations on the Gulf of Mexico OCS." (1996). With Allan Pulsipher, Omowumi Iledare, Dmitry Mesyanzhinov, and Bob Baumann. U.S. Department of Interior, Minerals Management Service, 16th Annual Information Transfer Meeting. New Orleans, Louisiana.
46. "Empirical Modeling of the Risk of a Petroleum Spill During E&P Operations: A Case Study of the Gulf of Mexico OCS." (1996). With Omowumi Iledare, Allan Pulsipher, and Dmitry Mesyanzhinov. Southern Economic Association, Sixty-Sixth Annual Conference. Washington, D.C.
47. "Input Price Fluctuations, Total Factor Productivity, and Price Cap Regulation in the Telecommunications Industry" (1996). With Farhad Niami. Southern Economic Association, Sixty-Sixth Annual Conference. Washington, D.C.
48. "Recovery of Stranded Investments: Comparing the Electric Utility Industry to Other Recently Deregulated Industries" (1996). With Farhad Niami and Dmitry Mesyanzhinov. Southern Economic Association, Sixty-Sixth Annual Conference. Washington, D.C.

49. "Spatial Perspectives on the Forthcoming Deregulation of the U.S. Electric Utility Industry." (1996) With Dmitry Mesyanzhinov. Southwest Association of American Geographers Annual Meeting. Norman, Oklahoma.
50. "Comparing the Safety and Environmental Performance of Offshore Oil and Gas Operators." (1995). With Allan Pulsipher, Omowumi Iledare, Dmitry Mesyanzhinov, William Daniel, and Bob Baumann. U.S. Department of Interior, Minerals Management Service, 15th Annual Information Transfer Meeting. New Orleans, Louisiana.
51. "Empirical Determinants of Nuclear Power Plant Disallowances." (1995). Southern Economic Association, Sixty-Fifth Annual Conference. New Orleans, Louisiana.
52. "A Cross-Sectional Model of IntraLATA MTS Demand." (1995). Southern Economic Association, Sixty-Fifth Annual Conference. New Orleans, Louisiana.

ACADEMIC SEMINARS AND PRESENTATIONS

1. Panelist. "Fuel Security, Resource Adequacy & Value of Transmission." (2019). 6th Annual Electricity Dialogue at Northwestern University: Energy and Capacity: Transitions? Northwestern University Center of Law, Regulation, and Economic Growth.
2. "Air Emissions Regulation and Policy: The Recently Proposed Cross State Air Pollution Rule and the Implications for Louisiana Power Generation." Lecture before School of the Coast & Environment. November 5, 2011.
3. "Energy Regulation: Overview of Power and Gas Regulation." Lecture before School of the Coast & Environment, Course in Energy Policy and Law. October 5, 2009.
4. "Trends and Issues in Renewable Energy." Presentation before the School of the Coast & Environment, Louisiana State University. Spring Guest Lecture Series. May 4, 2007.
5. "CES Research Projects and Status." Presentation before the U.S. Department of the Interior, Minerals Management Service, Outer Continental Shelf Scientific Committee Meeting, New Orleans, LA May 22, 2007.
6. "Hurricane Impacts on Energy Production and Infrastructure." Presentation Before the 53rd Mineral Law Institute, Louisiana State University. April 7, 2006.
7. "Trends and Issues in the Natural Gas Industry and the Development of LNG: Implications for Louisiana. (2004) 51st Mineral Law Institute, Louisiana State University, Baton Rouge, LA. April 2, 2004.
8. "Electric Restructuring and Conservation." (2001). Presentation before the Department of Electrical Engineering, McNeese State University. Lake Charles, Louisiana. May 2, 2001.
9. "Electric Restructuring and the Environment." (1998). Environment 98: Science, Law, and Public Policy. Tulane University. Tulane Environmental Law Clinic. March 7, New Orleans, Louisiana.
10. "Electric Restructuring and Nuclear Power." (1997). Louisiana State University. Department of Nuclear Science. November 7, Baton Rouge, Louisiana.
11. "The Empirical Determinants of Co-generated Electricity: Implications for Electric Power

Industry Restructuring.” (1997). With Andrew N. Kleit. Florida State University. Department of Economics: Applied Microeconomics Workshop Series. October 17, Tallahassee, Florida.

PROFESSIONAL AND CIVIC PRESENTATIONS

1. “Gulf Coast Energy Outlook 2024.” (2023). LSU Center for Energy Studies, Baton Rouge, LA, Fall 2023.
2. “Louisiana clean, green industry: reconciling industrial decarbonization, capital formation, and growth.” (2023). Louisiana State Bar Association, Public Utility Section. December 1, 2023.
3. “Expert witness training: considerations for preparation and effective execution during public utility regulatory hearings and proceedings.” (2023). On the Behalf of the National Association of State Utility Consumer Advocates, Accounting and Finance Subcommittee. September 21, 2023.
4. “Gulf cost energy outlook: traditional resources and the energy transition.” (2023). AAPL/Gulf Coast Land Institute Meetings. April 26, 2023.
5. “Ratepayer considerations in the promotion of clean energy.” (2023). Public Utility Law Section Roundtable Discussion. April 21, 2023.
6. “Gulf coast energy outlook: traditional resources and the energy transition.” (2023). Louisiana Engineering Society. April 19, 2023.
7. “Carbon capture & storage: three thoughts and considerations.” (2023). Gulf Coast Power Association. 9th Annual MISO/SPP Conference. March 9, 2023.
8. “Natural gas markets: prices; trends; and ratepayer impacts.” (2023). Maryland Energy Advocates Virtual Monthly Meeting. February 17, 2023.
9. “Hydrogen overview and its role in Louisiana decarbonization.” (2022). Louisiana Public Service Commission Monthly Business & Executive Meeting. November 17, 2022.
10. “High winter natural gas prices and ratepayer impacts.” (2022). National Association of State Utility Consumer Advocates (“NASUCA”) Annual Conference. November 14, 2022.
11. “Facing the future together: the Louisiana energy transition, industrial decarbonization, and capital formation trends.” (2022). Louisiana Chemical Association: Annual Meeting 2022. October 27, 2022.
12. “Louisiana and the energy transition: reconciling industrial decarbonization, capital formation, and growth.” (2022). Louisiana Air and Waste Management 2022 Annual Meeting. October 26, 2022.
13. “The Louisiana energy transition, industrial decarbonization, and industrial capital formation trends.” (2022). Postlethwaite & Netterville: 2022 Governmental Update. August 4, 2022.
14. “Identifying and mapping regulatory requirements for CCUS projects.” (2022). SECARB Offshore GOM Gulf Regulator Workshop. New Orleans LA. May 16, 2022.

15. "Louisiana industrial decarbonization opportunities." (2022). Louisiana Chemical Association/Louisiana Chemical Industry Alliance Legislative Meeting. May 11, 2022. Baton Rouge, LA.
16. "Natural Gas outlook, 2022: supply, demand, and geopolitical considerations." (2022). National Association of State Utility Consumer Advocates ("NASUCA") Monthly Natural Gas Committee Webinar. March 30, 2022.
17. "Louisiana industrial decarbonization opportunities." (2022). LSU Law School, Journal of Energy Law and Resources Symposium on Energy Transitions. February 4, 2022. Baton Rouge, LA.
18. Panelist. Grid Resiliency in the Era of Extreme Weather. Gulf Coast Power Association 8th Annual MISO/SPP Regional Meeting. February 9, 2022. New Orleans, LA.
19. Panelist. Natural Gas Industry Update. (2022). National Association of State Utility Consumer Advocates Annual Meeting. (virtual). November 8, 2021.
20. "Overview of Louisiana's greenhouse gas emissions and trends." (2021). Louisiana Energy Users Group ("LEUG") Meeting. November 11, 2021.
21. "State of energy in Louisiana: a preview of the 2021 Gulf Coast Energy Outlook." (2021). Financial Planning Association of Baton Rouge. November 10, 2021.
22. "Replacing natural gas and industrial decarbonization: utility and ratemaking issues." (2021). Virtual Joint Annual Meeting: Virginia Committee for Fair Utility Rates, Old Dominion Committee for Fair Utility Rates, and Virginia Industrial Gas Users Group Workshop. September 8, 2021.
23. "Louisiana 2021 GHG Inventory: Update and summary of preliminary findings." (2021). Presentation before the Climate Initiative Task Force. July 29, 2021.
24. "Opportunities for the development of a hydrogen economy in Louisiana." (2021). Louisiana Energy Climate Solutions Workshop. June 15, 2021.
25. "Natural gas: Building gas system resilience. Overview of the 2021 polar vortex and its implications for gas resiliency." (2021). National Association of State Utility Consumer Advocates ("NASUCA"). Virtual mid-year meeting. June 14, 2021.
26. "Status and briefing on the Louisiana greenhouse gas inventory and emissions analysis." (2021). Scientific Advisory Group ("SAG") Meeting, Governor's Climate Initiative Task Force. March 29, 2021.
27. "Louisiana carbon capture: sinks; sources; and the role of transportation in industrial applications." (2021). LSU Journal of Energy Law & Resources Symposium on Carbon Capture and Solutions. February 5, 2021.
28. "Natural gas outlook, 2021: production, demand, pandemic and policy." (2021). National Association of State Utility Consumer Advocates ("NASUCA") Monthly Natural Gas Committee Webinar. January 20, 2021.
29. "Consumer Perspectives on the Rate Design of the Future." (2020). National Association of State Utility Consumer Advocates ("NASUCA"). Annual Conference, November 10.

30. "Evaluation of Louisiana's Depleted Gas Reservoirs for Geological Carbon Sequestration." (2020). Louisiana Mid-Continent Oil and Gas Association ("LMOGA") Carbon Capture and Underground Storage ("CCUS") Committee Meeting. August 25.
31. "The 2020 Gulf Coast Energy Outlook: COVID-19 update." (2020). Baton Rouge Area Chamber of Commerce Business Webinar. COVID-19 and Global Supply Impacts on the Capital Region and Louisiana Economies. Baton Rouge, LA. June 3.
32. "Ratepayer benefits of reforming PURPA". (2020). Harvard Electricity Policy Group Webinar. PURPA: A time to reform or reduce its role? March 26.
33. "Pipeline industry: economic trends and outlook". (2020). Joint Industry Association Annual Meeting. Louisiana Mid-Continent Oil and Gas Association ("LMOGA") and the Louisiana Oil and Gas Association ("LOGA"). Lake Charles, LA March 5.
34. "The outlook for natural gas: storm clouds ahead?" (2020). National Association of State Utility Consumer Advocates ("NASUCA"). Natural Gas Committee Webinar, February 26.
35. "The 2020 Gulf Coast Energy Outlook". (2020). University of Louisiana Lafayette, Southern Unconventional Resources Center for Excellence. Lafayette, LA February 16.
36. "Opportunities for carbon capture, utilization, and storage in the Louisiana chemical corridor". (2020). Air and Waste Management Association, Louisiana Section Luncheon. Gonzales, LA January 16.
37. Panelist. (2020). Baton Route Advocate, 2020 Economic Outlook Summit. Baton Rouge Advocate. January 8.
38. "2020 Louisiana business climate outlook: the view from the energy sector." (2019). American Council of Engineering Companies Fall Conference. November 21, 2019. Baton Rouge, LA
39. "The urgency of PURPA reform in protecting ratepayers." (2019). Americans for Tax Reform, Fall 2019 Coalition Leaders Summit, November 14, 2019. New Orleans, LA.
40. "Louisiana's coast and the energy industry." (2019). 2019 API Delta Chapter Joint Society Luncheon Meeting. November 12, 2019, New Orleans, LA.
41. "Reforming PURPA: implications for ratepayers." (2019). Thomas Jefferson Institute for Public Policy, Annual Energy Summit, State Policy Network Annual Meeting. Colorado Springs, CO, October 28.
42. "Natural gas outlook: supply, demand and prices." (2019). National Association of State Utility Consumer Advocates, Natural Gas Committee Monthly Meeting. July 30, 2019.
43. "The economic impacts and outlook for LNG development on the Gulf Coast." (2019). 73rd Annual Meeting of the Southern Legislative Conference of the Council of State Governments. New Orleans, LA, July 14. (prepared presentation, hurricane cancellation)
44. "Natural gas outlook: supply, demand, and prices." (2019). NASUCA Mid-Year Meeting. Portland, OR, June 20.
45. "Overview of Louisiana LNG issues and trends." (2019). Berlin: LNG, Energy Security, and Diversity Reporting Tour, LSU Center for Energy Studies. Baton Rouge, LA, May 9.

46. "Overview of Louisiana energy issues and outlook." (2019). Australian Media Visit, Greater New Orleans, Inc./Baton Rouge Area Foundation. Baton Rouge, LA, April 29.
47. "Gulf Coast Energy Outlook 2019: Regional trends and outlook." (2019). Women's Energy Network. Baton Rouge, LA, April 23.
48. "MISO Grid Vision 2033." (2019). 2019 Spring Regulator and Policymaker Forum. New Orleans, LA, April 15-16.
49. "Ratepayer benefits of reforming PURPA." (2019). LSU Center for Energy Studies Industry Advisory Council Meeting. March 27.
50. "Incentives, risk, and the changing nature of regulation." (2019). NASUCA Water Committee monthly meeting/webinar. March 13.
51. "Gulf Coast Energy Outlook 2019: Production, trade and infrastructure trends." (2019). 66th Annual Mineral Board Institute Meetings. Baton Rouge, LA, March 14.
52. "A golden age: energy outlook 2019." (2019). Engineering News Record Webinar. February 13.
53. Panelist. (2019). Baton Route Advocate, 2019 Economic Outlook Summit. Baton Rouge Advocate. January 8.
54. "MISO Grid Vision 2033." (2018). 2018 Winter Regulatory and Policymaker Forum. New Orleans, LA, December 11.
55. "Gulf Coast Energy Outlook 2019." (2018). LSU Center for Energy Studies, Baton Rouge, LA, Fall 2018.
56. "How LNG is transforming Louisiana's energy economy." (2018). Louisiana State Bar Association, Public Utility Section. Baton Rouge, LA, November 30.
57. "Overview of Louisiana LNG issues and trends." (2018). Kean Miller Law Firm: Energy and Environmental Practice Group. Baton Rouge, LA, November 28.
58. "Infrastructure and capacity: challenges for development." (2018). Society of Utility and Regulatory Financial Analysts (SURFA) Annual Meeting, New Orleans, LA, April 20.
59. "Louisiana industrial cogeneration trends." (2018). Annual Louisiana Solid Waste Association Conference, Lafayette, LA, March 16.
60. "Gulf Coast industrial development: overview of trends and issues." (2018). Gulf Coast Power Association Meetings, New Orleans, LA, February 8.
61. "Energy outlook – reflection on market trends and Louisiana implications." (2017). IberiaBank Corporation Bank Board of Directors Meeting, New Orleans, LA. November 15.
62. "Integrated carbon capture and storage in the Louisiana chemical corridor." (2017). Industry Associates Advisory Council Meeting, Baton Rouge, LA. November 7.
63. "The outlook for natural gas and energy development on the Gulf Coast." (2017). Louisiana Chemical Association, Annual Meeting, New Orleans, LA. October 26.
64. "Critical energy infrastructure: the big picture on resiliency research." (2017). National Academies of Science, Engineering, and Medicine. New Orleans, LA. September 18.

65. "The changing nature of Gulf of Mexico energy infrastructure." (2017). 27th Gulf of Mexico Region Information Technology Meetings, New Orleans, LA, August 24.
66. "Capacity utilization, efficiency trends, and economic risks for modern CHP installations." (2017). Industrial Energy Technology Conference, New Orleans, LA. June 21.
67. "Crude oil and natural gas outlook: Where are we and where are we going?" (2017). CCREDC Economic Trends Panel. Corpus Christi, TX, June 15.
68. "Navigating through the energy landscape." (2017). Baton Rouge Rotary Luncheon. Baton Rouge, LA, May 24.
69. "The 2017-2018 Louisiana energy outlook." (2017). Junior Achievement of Greater New Orleans, JA BizTown Speaker Series. New Orleans, LA, May 12.
70. "The Gulf Coast energy economy: trends and outlook." (2017). Society for Municipal Analysts. New Orleans, LA, April 21.
71. "Gulf coast energy outlook." (2017). E.J. Ourso College of Business, Dean's Advisory Council, Energy Committee Meeting. Baton Rouge, LA, March 31.
72. "Recent trends in energy: overview and impact for the banking community." (2017). Oil and Gas Industry Update, Louisiana Bankers Association. Baton Rouge, LA, March 24.
73. "How supply, demand and prices have influenced unconventional development." (2016). Energy Annual Meeting, CLEER-University Advisory Board Lecture. New Orleans, LA, September 17.
74. "The Basics of Natural Gas Production, Transportation, and Markets." (2016). Center for Energy Studies. Baton Rouge, LA, August 1.
75. "Gulf Coast industrial development: trends and outlook." (2016). Investor Relations Group Meeting, Edison Electric Institute. New Orleans, LA, June 23.
76. "The future of policy and regulation: Unlocking the Treasures of Utility Regulation." (2016). Annual Meeting, National Conference of Regulatory Attorneys. Tampa, FL, June 20.
77. "Utility mergers: where's the beef?". (2016). National Association of State Utility Consumer Advocates Mid-Year Meetings. New Orleans, LA, June 6.
78. "Overview of the Clean Power Plan and its application to Louisiana." (2016). Shell Oil Company Internal Meeting. April 12.
79. "Energy and economic development on the Gulf Coast: trends and emerging challenges." (2016). Gas Processors Association Meeting. New Orleans, LA, April 11.
80. "Unconventional Oil and Gas Drilling Trends and Issues." (2016). French Delegation Visit, LSU Center for Energy Studies. March 16.
81. "Gulf Coast Industrial Growth: Passing clouds or storms on the horizon?" (2016). Gulf Coast Power Association Meetings. New Orleans, LA, February 18.
82. "The Transition to Crisis: What do the recent changes in energy markets mean for Louisiana?" (2016). Louisiana Independent Study Group. February 2.

83. "Regulatory and Ratepayer Issues in the Analysis of Utility Natural Gas Reserves Purchases" (2016). National Association of State Utility Consumer Advocates Gas Consumer Monthly Meeting. January 25.
84. "Emerging Issues in Fuel Procurement: Opportunities & Challenges in Natural Gas Reserves Investment." (2015). National Association of State Utility Consumer Advocates Annual Meeting. Austin, Texas. November 9.
85. "Trends and Issues in Net Metering and Solar Generation." (2015). Louisiana Rural Electric Cooperative Meeting. November 5.
86. "Electric Power: Industry Overview, Organization, and Federal/State Distinctions." (2015). EUCI. October 16.
87. "Natural Gas 101: The Basics of Natural Gas Production, Transportation, and Markets." (2015). Council of State Governments Special Meeting on Gas Markets. New Orleans, LA. October 14.
88. "Update and General Business Matters." (2015). CES Industry Associates Meeting. Baton Rouge, Louisiana. Fall 2015.
89. "The Impact of Infrastructure Cost Recovery Mechanisms on Pipeline Replacements and Leaks." (2015). 38th IAEE 2015 International Conference. Antalya, Turkey. May 26.
90. "Industry on the Move – What's Next?" (2015). Event Sponsored by Regional Bank and 1012 Industry Report. May 5.
91. "The State of the Energy Industry and Other Emerging Issues." (2015). Lex Mundi Energy & Natural Resources Practice Group Global Meeting. May 5.
92. "Energy, Louisiana, and LSU." (2015). LSU Science Café. Baton Rouge, Louisiana. April 28.
93. "Energy Market Changes and Impacts for Louisiana." (2015). Kinetica Partners Shippers Meeting, New Orleans, Louisiana. April 22.
94. "Incentives, Risk and the Changing Nature of Utility Regulation." (2015). NARUC Staff Subcommittee on Accounting and Finance Meetings, New Orleans, Louisiana. April 22.
95. "Modifying Renewables Policies to Sustain Positive and Economic Change." (2015). IEEE Annual Green Technologies ("Greentech Conference"). April 17.
96. "Louisiana's Changing Energy Environment." (2015). John P. Laborde Energy Law Center Advisory Board Spring Meeting, Baton Rouge, Louisiana. March 27.
97. "The Latest and the Long on Energy: Outlooks and Implications for Louisiana." (2015). Iberia Bank Advisory Board Meeting, Baton Rouge, Louisiana. February 23.
98. "A Survey of Recent Energy Market Changes and their Potential Implications for Louisiana." (2015). Vistage Group, New Orleans, Louisiana. February 4.
99. "Energy Prices and the Outlook for the Tuscaloosa Marine Shale." (2015). Baton Rouge Rotary Club, Baton Rouge, Louisiana. January 28.
100. "Trends in Energy & Energy-Related Economic Development." (2014). Miller and Thompson Presentation, Baton Rouge, Louisiana. December 30.

101. "Overview EPA's Proposed Rule Under Section 111(d) of the Clean Air Act: Impacts for Louisiana." (2014). Louisiana State Bar: Utility Section CLE Annual Meeting, Baton Rouge, Louisiana. November 7.
102. "Overview EPA's Proposed Clean Power Plan and Impacts for Louisiana." (2014). Clean Cities Coalition Meeting, Baton Rouge, Louisiana. November 5.
103. "Impacts on Louisiana from EPA's Proposed Clean Power Plan." (2014). Air & Waste Management Annual Environmental Conference (Louisiana Chapter), Baton Rouge, Louisiana. October 29, 2014.
104. "A Look at America's Growing Demand for Natural Gas." (2014). Louisiana Chemical Association Annual Meeting, New Orleans, Louisiana. October 23.
105. "Trends in Energy & Energy-Related Economic Development." (2014). 2014 Government Finance Officer Association Meetings, Baton Rouge, Louisiana. October 9.
106. "The Conventional Wisdom Associated with Unconventional Resource Development." (2014). National Association for Business Economics Annual Conference, Chicago, Illinois. September 28.
107. Unconventional Oil & Natural Gas: Overview of Resources, Economics & Policy Issues. (2014). Society of Environmental Journalists Annual Meeting. New Orleans, Louisiana. September 4.
108. "Natural Gas Leveraged Economic Development in the South." (2014). Southern Governors Association Meeting, Little Rock, Arkansas. August 16.
109. "The Past, Present and Future of CHP Development in Louisiana." (2014). Louisiana Public Service Commission CHP Workshop, Baton Rouge, Louisiana. June 25.
110. "Regional Natural Gas Demand Growth: Industrial and Power Generation Trends." (2014). Kinetica Partners Shippers Meeting, New Orleans, Louisiana. April 30.
111. "The Technical and Economic Potential for CHP in Louisiana and the Impact of the Industrial Investment Renaissance on New CHP Capacity Development." (2014). Electric Power 2014, New Orleans, Louisiana. April 1.
112. "Industry Investments and the Economic Development of Unconventional Development." (2014). Tuscaloosa Marine Shale Conference & Expo, Natchez, Mississippi. March 31.
113. Discussion Panelist. Energy Outlook 2035: The Global Energy Industry and Its Impact on Louisiana, (2014). Grow Louisiana Coalition, Baton Rouge, Louisiana. March 18.
114. "Natural Gas and the Polar Vortex: Has Recent Weather Led to a Structural Change in Natural Gas Markets?" (2014). National Association of State Utility Consumer Advocates Monthly Gas Committee Meeting. February 19.
115. "Some Unconventional Thoughts on Regional Unconventional Gas and Power Generation Requirements." (2014). Gulf Coast Power Association Special Briefing, New Orleans, Louisiana. February 6.
116. "Leveraging Energy for Industrial Development." (2013). 2013 Governor's Energy Summit, Jackson, Mississippi. December 5.

117. "Natural Gas Line Extension Policies: Ratepayer Issues and Considerations." (2013). National Association of State Utility Consumer Advocates Annual Meeting, Orlando, Florida. November 19.
118. "Replacement, Reliability & Resiliency: Infrastructure & Ratemaking Issues in the Power & Natural Gas Distribution Industries." (2013). Louisiana State Bar, Public Utility Section Meetings. November 15.
119. "Natural Gas Markets: Leveraging the Production Revolution into an Industrial Renaissance." (2013). International Technical Conference, Houston, TX. October 11.
120. "Natural Gas, Coal & Power Generation Issues and Trends." (2013). Southeast Labor and Management Public Affairs Committee Conference, Chattanooga, Tennessee. September 27.
121. "Recent Trends in Pipeline Replacement Trackers." (2013). National Association of State Utility Consumer Advocates Monthly Gas Committee Meeting. September 19.
122. Discussion Panelist (2013). Think About Energy Summit, America's Natural Gas Alliance, Columbus Ohio. September 16-17.
123. "Future Test Years: Issues to Consider." (2013). National Regulatory Research Institute, Teleseminar on Future Test Years. August 28.
124. "Industrial Development Outlook for Louisiana." (2013). Louisiana Water Synergy Project Meetings, Jones Walker Law Firm, Baton Rouge, Louisiana. July 30.
125. "Natural Gas & Electric Power Coordination Issues and Challenges." (2013). Utilities State Government Organization Conference, Pointe Clear, Alabama. July 9.
126. "Natural Gas Market Issues & Trends." (2013). Western Conference of Public Service Commissioners, Santa Fe, New Mexico. June 3.
127. "Louisiana Unconventional Natural Gas and Industrial Redevelopment." (2013). Louisiana Chemical Association/Louisiana Chemical Industry Alliance Annual Legislative Conference, Baton Rouge, Louisiana. May 8.
128. "Infrastructure Cost Recovery Mechanism: Overview of Issues." (2013). Energy Bar Association Annual Meeting, Washington, D.C. May 1.
129. "GOM Offshore Oil and Gas." (2013). Energy Executive Roundtable, New Orleans, Louisiana. March 27.
130. "Louisiana Unconventional Natural Gas and Industrial Redevelopment." (2013). Risk Management Association Luncheon, March 21.
131. "Natural Gas Market Update and Emerging Issues." (2013). NASUCA Gas Committee Conference Call/Webinar, March 12.
132. "Unconventional Resources and Louisiana's Manufacturing Development Renaissance." (2013). Baton Rouge Press Club, De La Ronde Hall, Baton Rouge, LA, January 28.
133. "New Industrial Operations Leveraged by Unconventional Natural Gas." (2013) American Petroleum Institute-Louisiana Chapter. Lafayette, LA, Petroleum Club, January 14.
134. "What's Going on with Energy? How Unconventional Oil and Gas Development is

- Impacting Renewables, Efficiency, Power Markets, and All that Other Stuff.” (2012). Atlanta Economics Club Monthly Meeting. Atlanta, GA. December 11.
135. “Trends, Issues, and Market Changes for Crude Oil and Natural Gas.” (2012). East Iberville Community Advisory Panel Meeting. St. Gabriel, LA. September 26.
 136. “Game Changers in Crude and Natural Gas Markets.” (2012). Chevron Community Advisory Panel Meeting. Belle Chase, LA, September 17.
 137. “The Outlook for Renewables in a Changing Power and Natural Gas Market.” (2012). Louisiana Biofuels and Bioprocessing Summit. Baton Rouge, LA. September 11.
 138. “The Changing Dynamics of Crude and Natural Gas Markets.” (2012). Chalmette Refining Community Advisory Panel Meeting. Chalmette, LA, September 11.
 139. “The Really Big Game Changer: Crude Oil Production from Shale Resources and the Tuscaloosa Marine Shale.” (2012). Baton Rouge Chamber of Commerce Board Meeting. Baton Rouge, LA, June 27.
 140. “The Impact of Changing Natural Gas Prices on Renewables and Energy Efficiency.” (2012). NASUCA Gas Committee Conference Call/Webinar. 12 June 2012.
 141. “Issues in Gas-Renewables Coordination: How Changes in Natural Gas Markets Potentially Impact Renewable Development” (2012). Energy Bar Association, Louisiana Chapter, Annual Meeting, New Orleans, LA. April 12, 2012.
 142. “Issues in Natural Gas End-Uses: Are We Really Focusing on the Real Opportunities?” (2012). Energy Bar Association, Louisiana Chapter, Annual Meeting, New Orleans, LA. April 12, 2012.
 143. “The Impact of Legacy Lawsuits on Conventional Oil and Gas Drilling in Louisiana.” (2012). Louisiana Oil and Gas Association Annual Meeting, Lake Charles, LA. February 27, 2012.
 144. “The Impact of Legacy Lawsuits on Conventional Oil and Gas Drilling in Louisiana.” (2012) Louisiana Oil and Gas Association Annual Meeting. Lake Charles, Louisiana. February 27, 2012.
 145. “Louisiana’s Unconventional Plays: Economic Opportunities, Policy Challenges. Louisiana Mid-Continent Oil and Gas Association 2012 Annual Meeting. (2012) New Orleans, Louisiana. January 26, 2012.
 146. “EPA’s Recently Proposed Cross State Air Pollution Rule (“CSAPR”) and Its Impacts on Louisiana.” (2011). Bossier Chamber of Commerce. November 18, 2011.
 147. “Facilitating the Growth of America’s Natural Gas Advantage.” (2011). BASF U.S. Shale Gas Workshop Management Meeting. Florham Park, New Jersey. November 1, 2011.
 148. “CSAPR and EPA Regulations Impacting Louisiana Power Generation.” (2011). Air and Waste Management Association (Louisiana Section) Fall Conference. Environmental Focus 2011: a Multi-Media Forum. Baton Rouge, LA. October 25, 2011.
 149. “Natural Gas Trends and Impact on Industrial Development.” (2011). Central Gulf Coast Industrial Alliance Conference. Arthur R. Outlaw Convention Center. Mobile, AL. September 22, 2011.

150. "Energy Market Changes and Policy Challenges." (2011). Southeast Manpower Tripartite Alliance ("SEMTA") Summer Conference. Nashville, TN September 2, 2011.
151. "EPA Regulations, Rates & Costs: Implications for U.S. Ratepayers." (2011). Workshop: "A Smarter Approach to Improving Our Environment." 38th Annual American Legislative Exchange Council ("ALEC") Meetings. New Orleans, LA. August 5, 2011.
152. Panelist/Moderator. Workshop: "Why Wait? Start Energy Independence Today." 38th Annual American Legislative Exchange Council ("ALEC") Meetings. New Orleans, LA. August 4, 2011.
153. "Facilitating the Growth of America's Natural Gas Advantage." Texas Chemical Council, Board of Directors Summer Meeting. San Antonio, TX. July 28, 2011.
154. "Creating Ratepayer Benefits by Reconciling Recent Gas Supply Opportunities with Past Policy Initiatives." National Association of State Utility Consumer Advocates ("NASUCA"), Monthly Gas Committee Meeting. July 12, 2011.
155. "Energy Market Trends and Policies: Implications for Louisiana." (2011). Lakeshore Lion's Club Monthly Meeting. Baton Rouge, Louisiana. June 20, 2011.
156. "America's Natural Gas Advantage: Securing Benefits for Ratepayers Through Paradigm Shifts in Policy." Southeastern Association of Regulatory Commissioners ("SEARUC") Annual Meeting. Nashville, Tennessee. June 14, 2011.
157. "Learning Together: Building Utility and Clean Energy Industry Partnerships in the Southeast." (2011). American Solar Energy Society National Solar Conference. Raleigh Convention Center, Raleigh, North Carolina. May 20, 2011.
158. "Louisiana Energy Outlook and Trends." (2011). Executive Briefing. Consul General of Canada. LSU Center for Energy Studies, Baton Rouge, Louisiana. May 24, 2011.
159. "Louisiana's Natural Gas Advantage: Can We Hold It? Grow It? Or Do We Need to be Worrying About Other Problems?" (2011). Louisiana Chemical Association Annual Legislative Conference, Baton Rouge, Louisiana, May 5, 2011.
160. "Energy Outlook and Trends: Implications for Louisiana. (2011). Executive Briefing, Legislative Staff, Congressman William Cassidy. LSU Center for Energy Studies, Baton Rouge, Louisiana. March 25, 2011.
161. "Regulatory Issues in Inflation Adjustment Mechanisms and Allowances." (2011). Gas Committee, National Association of State Utility Consumer Advocates ("NASUCA"). February 15, 2011.
162. "Regulatory Issues in Inflation Adjustment Mechanisms and Allowances." (2010). 2010 Annual Meeting, National Association of State Utility Consumer Advocates ("NASUCA"), Omni at CNN Center, Atlanta, Georgia, November 16, 2010.
163. "How Current and Proposed Energy Policy Impacts Consumers and Ratepayers." (2010). 122nd Annual Meeting, National Association of Regulatory Utility Commissioners ("NARUC"), Omni at CNN Center, Atlanta, Georgia, November 15, 2010.
164. "Energy Outlook: Trends and Policies." (2010). 2010 Tri-State Member Service Conference; Arkansas, Louisiana, and Mississippi Electric Cooperatives. L'Auberge du

- Lac Casino Resort, Lake Charles, Louisiana, October 14, 2010.
165. "Deepwater Moratorium and Louisiana Impacts." (2010). The Energy Council Annual Meeting. Gulf of Mexico Deepwater Horizon Accident, Response, and Policy. Beau Rivage Conference Center. Biloxi, Mississippi. September 25, 2010.
 166. "Overview on Offshore Drilling and Production Activities in the Aftermath of Deepwater Horizon." (2010) Jones Walker Banking Symposium. The Oil Spill: What Will it Mean for Banks in the Region? New Orleans, Louisiana. August 31, 2010.
 167. "Long-Term Energy Sector Impacts from the Oil Spill." (2010). Second Annual Louisiana Oil & Gas Symposium. The BP Gulf Oil Spill: Long-Term Impacts and Strategies. Baton Rouge Geological Society. August 16, 2010.
 168. "Overview and Issues Associated with the Deepwater Horizon Accident." (2010). Global Interdependence Meeting on Energy Issues. Baton Rouge, LA. August 12, 2010.
 169. "Overview and Issues Associated with the Deepwater Horizon Accident." (2010). Regional Roundtable Webinar. National Association for Business Economics. August 10, 2010.
 170. "Deepwater Moratorium: Overview of Impacts for Louisiana." Louisiana Association of Business and Industry Meeting. Baton Rouge, LA. June 25, 2010.
 171. Moderator. Senior Executive Roundtable on Industrial Energy Efficiency. U.S. Department of Energy Conference on Industrial Efficiency. Office of Renewable Energy and Energy Efficiency. Royal Sonesta Hotel, New Orleans, LA. May 21, 2010.
 172. "The Energy Outlook: Trends and Policies Impacting Southeastern Natural Gas Supply and Demand Growth." Second Annual Local Economic Analysis and Research Network ("LEARN") Conference. Federal Reserve Bank of Atlanta. March 29, 2010.
 173. "Natural Gas Supply Issues: Gulf Coast Supply Trends and Implications for Louisiana." Energy Bar Association, New Orleans Chapter Meeting. Jones Walker Law Firm. January 28, 2010, New Orleans, LA.
 174. "Potential Impacts of Federal Greenhouse Gas Legislation on Louisiana Industry." LCA Government Affairs Committee Meeting. November 10, 2009. Baton Rouge, LA
 175. "Regulatory and Ratemaking Issues Associated with Cost and Revenue Tracker Mechanisms." National Association of State Utility Consumer Advocates ("NASUCA") Annual Meeting. November 10, 2009.
 176. "Louisiana's Stakes in the Greenhouse Gas Debate." Louisiana Chemical Association and Louisiana Chemical Industry Alliance Annual Meeting: The Billing Dollar Budget Crisis: Catastrophe or Change? New Orleans, LA.
 177. "Gulf Coast Energy Outlook: Issues and Trends." Women's Energy Network, Louisiana Chapter. September 17, 2009. Baton Rouge, LA.
 178. "Gulf Coast Energy Outlook: Issues and Trends." Natchez Area Association of Energy Service Companies. September 15, 2009, Natchez, MS.
 179. "The Small Picture: The Cost of Climate Change to Louisiana." Louisiana Association of Business and Industry, U.S. Chamber of Commerce, Louisiana Oil and Gas Association, and LSU Center for Energy Studies Conference: Can Louisiana Make a Buck After

- Climate Change Legislation? August 21, 2009. Baton Rouge, LA.
180. "Carbon Legislation and Clean Energy Markets: Policy and Impacts." National Association of Conservation Districts, South Central Region Meeting. August 14, 2009. Baton Rouge, LA.
 181. "Evolving Carbon and Clean Energy Markets." The Carbon Emissions Continuum: From Production to Consumption." Jones Walker Law Firm and LSU Center for Energy Studies Workshop. June 23, 2009. Baton Rouge, LA
 182. "Potential Impacts of Cap and Trade on Louisiana Ratepayers: Preliminary Results." (2009). Briefing before the Louisiana Public Service Commission. Business and Executive Meeting, May 12, 2009. Baton Rouge, LA.
 183. "Natural Gas Outlook." (2009). Briefing before the Louisiana Public Service Commission. Business and Executive Meeting, May 12, 2009. Baton Rouge, LA.
 184. "Gulf Coast Energy Outlook: Issues and Trends." (2009). ISA-Lafayette Technical Conference & Expo. Cajundome Conference Center. Lafayette, Louisiana. March 12, 2009.
 185. "The Cost of Energy Independence, Climate Change, and Clean Energy Initiatives on Utility Ratepayers." (2009). National Association of Business Economics (NABE). 25th Annual Washington Economic Policy Conference: Restoring Financial and Economic Stability. Arlington, VA March 2, 2009.
 186. Panelist, "Expanding Exploration of the U.S. OCS" (2009). Deep Offshore Technology International Conference and Exhibition. PennWell. New Orleans, Louisiana. February 4, 2009.
 187. "Gulf Coast Energy Outlook." (2008.) Atmos Energy Regional Management Meeting. Louisiana and Mississippi Division. New Orleans, Louisiana. October 8, 2008.
 188. "Background, Issues, and Trends in Underground Hydrocarbon Storage." (2008). Presentation before the LSU Center for Energy Studies Industry Advisory Board Meeting. Baton Rouge, Louisiana. August 27, 2008.
 189. "Greenhouse Gas Regulations and Policy: Implications for Louisiana." (2008). Presentation before the Praxair Customer Seminar. Houston, Texas, August 14, 2008.
 190. "Market and Regulatory Issues in Alternative Energy and Louisiana Initiatives." (2008). Presentation before the 2008 Statewide Clean Cities Coalition Conference: Making Sense of Alternative Fuels and Advanced Technologies. New Orleans, Louisiana, March 27, 2008.
 191. "Regulatory Issues in Rate Design, Incentives, and Energy Efficiency." (2007) Presentation before the New Hampshire Public Utilities Commission. Workshop on Energy Efficiency and Revenue Decoupling. November 7, 2007.
 192. "Regulatory Issues for Consumer Advocates in Rate Design, Incentives, and Energy Efficiency." (2007). National Association of State Utility Consumer Advocates, Mid-Year Meeting. June 12, 2007.
 193. "Regulatory and Policy Issues in Nuclear Power Plant Development." (2007). LSU Center

- for Energy Studies Industry Advisory Council Meeting. Baton Rouge, LA. March 23, 2007.
194. "Oil and Gas in the Gulf of Mexico: A North American Perspective." (2007). Canadian Consulate, Heads of Mission EnerNet Workshop, Houston, Texas. March 20, 2007.
 195. "Regulatory Issues for Consumer Advocates in Rate Design, Incentives & Energy Efficiency. (2007). National Association of State Utility Consumer Advocates ("NASUCA") Gas Committee Monthly Meeting. February 13, 2006.
 196. "Recent Trends in Natural Gas Markets." (2006). National Association of Regulatory Utility Commissioners, 118th Annual Convention. Miami, FL November 14, 2006.
 197. "Energy Markets: Recent Trends, Issues & Outlook." (2006). Association of Energy Service Companies (AESC) Meeting. Petroleum Club, Lafayette, LA, November 8, 2006.
 198. "Energy Outlook" (2006). National Business Economics Issues Council. Quarterly Meeting, Nashville, TN, November 1-2, 2006.
 199. "Global and U.S. Energy Outlook." (2006). Energy Virginia Conference. Virginia Military Institute, Lexington, VA October 17, 2006.
 200. "Interdependence of Critical Energy Infrastructure Systems." (2006). Cross Border Forum on Energy Issues: Security and Assurance of North American Energy Systems. Woodrow Wilson Center for International Scholars. Washington, DC, October 13, 2006.
 201. "Determining the Economic Value of Coastal Preservation and Restoration on Critical Energy Infrastructure." (2006) The Economic and Market Impacts of Coastal Restoration: America's Wetland Economic Forum II. Washington, DC September 28, 2006.
 202. "Relationships between Power and Other Critical Energy Infrastructure." (2006). Rebuilding the New Orleans Region: Infrastructure Systems and Technology Innovation Forum. United Engineering Foundation. New Orleans, LA, September 24-25, 2006.
 203. "Outlook, Issues, and Trends in Energy Supplies and Prices." (2006.) Presentation to the Southern States Energy Board, Associate Members Meeting. New Orleans, Louisiana. July 14, 2006.
 204. "Energy Sector Outlook." (2006). Baton Rouge Country Club Meeting. Baton Rouge, Louisiana. July 11, 2006.
 205. "Oil and Gas Industry Post 2005 Storm Events." (2006). American Petroleum Institute, Teche Chapter. Production, Operations, and Regulations Annual Meeting. Lafayette, Louisiana. June 29, 2006.
 206. "Concentration of Energy Infrastructure in Hurricane Regions." (2006). Presentation before the National Commission on Energy Policy Forum: Ending the Stalemate on LNG Facility Siting. Washington, DC. June 21, 2006.
 207. "LNG—A Premier." (2006). Presentation Given to the U.S. Department of Energy's "LNG Forums." Los Angeles, California. June 1, 2006.
 208. "Regional Energy Infrastructure, Production and Outlook." (2006). Executive Briefing for Board of Directors, Louisiana Oil and Gas Plc., Enhanced Exploration, Inc. and Energy Self-Service, Inc. Covington, Louisiana, May 12, 2006.

209. "The Impacts of the Recent Hurricane Season on Energy Production and Infrastructure and Future Outlook." Presentation before the Industrial Energy Technology Conference 2006. New Orleans, Louisiana, May 9, 2006.
210. "Update on Regional Energy Infrastructure and Production." (2006). Executive Briefing for Delegation Participating in U.S. Department of Commerce Gulf Coast Business Investment Mission. Baton Rouge, Louisiana May 5, 2006.
211. "Hurricane Impacts on Energy Production and Infrastructure." (2006). Presentation before the Interstate Natural Gas Association of America Mid-Year Meeting. Hyatt Regency Hill Country. April 21, 2006.
212. "LNG—A Premier." Presentation Given to the U.S. Department of Energy's "LNG Forums." Astoria, Washington. April 28, 2006.
213. Natural Gas Market Outlook. Invited Presentation Given to the Georgia Public Service Commission and Staff. Georgia Institute of Technology, Atlanta, Georgia. March 10, 2006.
214. The Impacts of Hurricanes Katrina and Rita on Louisiana's Energy Industry. Presentation to the Louisiana Economic Development Council. Baton Rouge, Louisiana. March 8, 2006.
215. Energy Markets: Hurricane Impacts and Outlook. Presentation to the 2006 Louisiana Independent Oil and Gas Association Annual Conference. L'Auberge du Lac Resort and Casino. Lake Charles, Louisiana. March 6, 2006
216. Energy Market Outlook and Update on Hurricane Damage to Energy Infrastructure. Presentation to the Energy Council 2005 Global Energy and Environmental Issues Conference. Santa Fe, New Mexico, December 10, 2005.
217. "Putting Our Energy Infrastructure Back Together Again." Presentation Before the 117th Annual Convention of the National Association of Regulatory Utility Commissioners (NARUC). November 15, 2005. Palm Springs, CA
218. "Hurricanes and the Outlook for Energy Markets." Presentation before the Baton Rouge Rotary Club. November 9, 2005, Baton Rouge, LA.
219. "Hurricanes, Energy Supplies and Prices." Presentation before the Louisiana Department of Natural Resources and Atchafalaya Basin Committee Meeting. November 8, 2005. Baton Rouge, LA.
220. "The Impact of the Recent Hurricane's on Louisiana's Energy Industry." Presentation before the Louisiana Independent Oil and Gas Association Board of Directors Meeting. November 8, 2005. Baton Rouge, LA.
221. "The Impact of the Recent Hurricanes on Louisiana's Infrastructure and National Energy Markets." Presentation before the Baton Rouge City Club Distinguished Speaker Series. October 13, 2005. Baton Rouge, LA.
222. "The Impact of the Recent Hurricanes on Louisiana's Infrastructure and National Energy Markets." Presentation before Powering Up: A Discussion About the Future of Louisiana's Energy Industry. Special Lecture Series Sponsored by the Kean Miller Law Firm. October 13, 2005. Baton Rouge, LA.

223. "The Impact of Hurricane Katrina on Louisiana's Energy Infrastructure and National Energy Markets." Special Lecture on Hurricane Impacts, LSU Center for Energy Studies, September 29, 2005.
224. "Louisiana Power Industry Overview." Presentation before the Clean Air Interstate Rule Implementation Stakeholders Meeting. August 11, 2005. Louisiana Department of Environmental Quality.
225. "CES 2005 Legislative Support and Outlook for Energy Markets and Policy." Presentation before the LMOGA/LCA Annual Post-Session Legislative Committee Meeting. August 10-13, 2005. Perdido Key, Florida.
226. "Electric Restructuring: Past, Present, and Future." Presentation to the Southeastern Association of Tax Administrators Annual Conference. Sheraton Hotel and Conference Facility. New Orleans, LA July 12, 2005.
227. "The Outlook for Energy." Lagniappe Studies Continuing Education Course. Baton Rouge, LA. July 11, 2005.
228. "The Outlook for Energy." Sunshine Rotary Club. Baton Rouge, LA. April 27, 2005.
229. "Background and Overview of LNG Development." Energy Council Workshop on LNG/CNG. Biloxi, Ms: Beau Rivage Resort and Hotel, April 9, 2005.
230. "Natural Gas Supply, Prices, and LNG: Implications for Louisiana Industry." Cytec Corporation Community Advisory Panel. Fortier, LA January 14, 2005.
231. "The Economic Opportunities for a Limited Industrial Retail Choice Plan." Louisiana Department of Economic Development. Baton Rouge, Louisiana. November 19, 2004.
232. "Energy Issues for Industrial Customers of Gas and Power." Louisiana Association of Business and Industry, Energy Council Meeting. Baton Rouge, Louisiana. October 11, 2004.
233. "Energy Issues for Industrial Customers of Gas and Power." Annual Meeting of the Louisiana Chemical Association and the Louisiana Chemical Industry Alliance. Point Clear, Alabama. October 8, 2004.
234. "Energy Issues for Industrial Customers of Gas and Power." American Institute of Chemical Engineers – New Orleans Section. New Orleans, LA. September 22, 2004.
235. "Natural Gas Supply, Prices and LNG: Implications for Louisiana Industry." Dow Chemical Company Community Advisory Panel Meeting. Plaquemine, LA. August 9, 2004.
236. "Energy Issues for Industrial Customers of Gas and Power." Louisiana Chemical Association Post-Legislative Meeting. Springfield, LA. August 9, 2004.
237. "LNG In Louisiana." Joint Meeting of the Louisiana Economic Development Council and the Governors Cabinet Advisory Council. Baton Rouge, LA. August 5, 2004.
238. "Louisiana Energy Issues." Louisiana Mid-Continent Oil and Gas Association Post Legislative Meetings. Sandestin, Florida. July 28, 2004.

239. "The Gulf South: Economic Opportunities Related to LNG." Presentation before the Energy Council's 2004 State and Provincial Energy and Environmental Trends Conference. Point Clear, AL, June 26, 2004.
240. "Natural Gas and LNG Issues for Louisiana." Presentation before the Rhodia Community Advisory Panel. May 20, 2004, Baton Rouge, LA.
241. "The Economic Opportunities for LNG Development in Louisiana." Presentation before the Louisiana Chemical Association Plant Managers Meeting. May 27, 2004. Baton Rouge, LA.
242. "The Economic Opportunities for LNG Development in Louisiana." Presentation before the Louisiana Chemical Association/Louisiana Chemical Industry Alliance Legislative Conference. May 26, 2004. Baton Rouge, LA.
243. "The Economic Opportunities for LNG Development in Louisiana." Presentation before the Petrochemical Industry Cluster, Greater New Orleans, Inc. May 19, 2004, Destrehan, LA.
244. "Industry Development Issues for Louisiana: LNG, Retail Choice, and Energy." Presentation before the LSU Center for Energy Studies Industry Associates. May 14, 2004, Baton Rouge, LA.
245. "The Economic Opportunities for LNG Development in Louisiana." Presentation before the Board of Directors, Greater New Orleans, Inc. May 13, 2004, New Orleans, LA.
246. "Natural Gas Outlook: Trends and Issues for Louisiana." Presentation before the Louisiana Joint Agricultural Association Meetings. January 14, 2004, Hotel Acadiana, Lafayette, Louisiana.
247. "Natural Gas Outlook" Presentation before the St. James Parish Community Advisory Panel Meeting. January 7, 2004, IMC Production Facility, Convent, Louisiana.
248. "Competitive Bidding in the Electric Power Industry." Presentation before the Association of Energy Engineers. Business Energy Solutions Expo. December 11-12, 2003, New Orleans, Louisiana.
249. "Regional Transmission Organization in the South: The Demise of SeTrans" Presentation before the LSU Center for Energy Studies Industry Associates Advisory Council Meeting. December 9, 2003. Baton Rouge, Louisiana.
250. "Affordable Energy: The Key Component to a Strong Economy." Presentation before the National Association of Regulatory Utility Commissioners ("NARUC"), November 18, 2003, Atlanta, Georgia.
251. "Natural Gas Outlook." Presentation before the Louisiana Chemical Association, October 17, 2003, Pointe Clear, Alabama.
252. "Issues and Opportunities with Distributed Energy Resources." Presentation before the Louisiana Biomass Council. April 17, 2003, Baton Rouge, Louisiana.
253. "What's Happened to the Merchant Energy Industry? Issues, Challenges, and Outlook" Presentation before the LSU Center for Energy Studies Industry Associates Advisory Council Meeting. November 12, 2002. Baton Rouge, Louisiana.

254. "An Introduction to Distributed Energy Resources." Presentation before the U.S. Department of Energy, Office of Renewable Energy and Energy Efficiency, State Energy Program/Rebuild America Conference, August 1, 2002, New Orleans, Louisiana.
255. "Merchant Energy Development Issues in Louisiana." Presentation before the Program Committee of the Center for Legislative, Energy, and Environmental Research (CLEER), Energy Council. April 19, 2002.
256. "Merchant Power Plants and Deregulation: Issues and Impacts." Presentation before 24th Annual Conference on Waste and the Environment. Sponsored by the Louisiana Department of Environmental Quality. Lafayette, Louisiana, Cajundome. March 18, 2002.
257. "Merchant Power and Deregulation: Issues and Impacts." Presentation before the Air and Waste Management Association Annual Meeting. Baton Rouge, LA, November 15, 2001.
258. "Moving to the Front of the Lines: The Economic Impact of Independent Power Production in Louisiana." Presentation before the LSU Center for Energy Studies Merchant Power Generation and Transmission Conference, Baton Rouge, LA. October 11, 2001.
259. "Economic Impacts of Merchant Power Plant Development in Mississippi." Presentation before the U.S. Oil and Gas Association Annual Oil and Gas Forum. Jackson, Mississippi. October 10, 2001.
260. "Economic Opportunities for Merchant Power Development in the South." Presentation before the Southern Governor's Association/Southern State Energy Board Meetings. Lexington, KY. September 9, 2001.
261. "The Changing Nature of the Electric Power Business in Louisiana." Presentation before the Louisiana Department of Environmental Quality. Baton Rouge, LA, August 27, 2001.
262. "Power Business in Louisiana: Background and Issues." Presentation before the Louisiana Interagency Group on Merchant Power Development. Baton Rouge, LA, July 16, 2001.
263. "The Changing Nature of the Electric Power Business in Louisiana: Background and Issues." Presentation before the Louisiana Office of the Governor. Baton Rouge, LA, July 16, 2001.
264. "The Changing Nature of the Electric Power Business in Louisiana: Background and Issues." Presentation before the Louisiana Department of Economic Development. Baton Rouge, LA, July 3, 2001.
265. "The Economic Impacts of Merchant Power Plant Development In Mississippi." Presentation before the Mississippi Public Service Commission. Jackson, Mississippi, March 20, 2001.
266. "Energy Conservation and Electric Restructuring." With Ritchie D. Priddy. Presentation before the Louisiana Department of Natural Resources. Baton Rouge, Louisiana, October 23, 2000.
267. "Pricing and Regulatory Issues Associated with Distributed Energy." Joint Conference by Econ One Research, Inc., the Louisiana State University Distributed Energy Resources Initiative, and the University of Houston Energy Institute: "Is the Window Closing for Distributed Energy?" Houston, Texas, October 13, 2000.

268. "Electric Reliability and Merchant Power Development Issues." Technical Meetings of the Louisiana Public Service Commission. Baton Rouge, LA. August 29, 2000.
269. "A Introduction to Distributed Energy Resources." Summer Meetings, Southeastern Association of Regulatory Utility Commissioners (SEARUC). New Orleans, LA. June 27, 2000.
270. Roundtable Moderator/Discussant. Mid-South Electric Reliability Summit. U.S. Department of Energy. New Orleans, Louisiana. April 24, 2000.
271. "Electricity 101: Definitions, Precedents, and Issues." Energy Council's 2000 Federal Energy and Environmental Matters Conference. Loews L'Enfant Plaza Hotel, Washington, D.C. March 11-13, 2000.
272. "LSU/CES Distributed Energy Resources Initiatives." Los Alamos National Laboratories. Office of Energy and Sustainable Systems. Los Alamos, New Mexico. February 16, 2000.
273. "Distributed Energy Resources Initiatives." Louisiana State University, Center for Energy Studies Industry Associates Meeting. Baton Rouge, Louisiana. December 15, 1999.
274. "Merchant Power Opportunities in Louisiana." Louisiana Mid-Continent Oil and Gas Association (LMOGA) Power Generation Committee Meetings. Baton Rouge, Louisiana. November 10, 1999.
275. Roundtable Discussant. "Environmental Regulation in a Restructured Market" The Big E: How to Successfully Manage the Environment in the Era of Competitive Energy. PUR Conference. New Orleans, Louisiana. May 24, 1999.
276. "The Political Economy of Electric Restructuring In the South" Southeastern Electric Exchange, Rate Section Annual Conference. New Orleans, Louisiana. May 7, 1999.
277. "The Dynamics of Electric Restructuring in Louisiana." Joint Meeting of the American Association of Energy Engineers and the International Association of Facilities Managers. Metairie, Louisiana. April 29, 1999.
278. "The Implications of Electric Restructuring on Independent Oil and Gas Operations." Petroleum Technology Transfer Council Workshop: Electrical Power Cost Reduction Methods in Oil and Gas Field Operations. Lafayette, Louisiana, March 24, 1999.
279. "What's Happened to Electricity Restructuring in Louisiana?" Louisiana State University, Center for Energy Studies Industry Associates Meeting. March 22, 1999.
280. "A Short Course on Electric Restructuring." Central Louisiana Electric Company. Sales and Marketing Division. Mandeville, Louisiana, October 22, 1998.
281. "The Implications of Electric Restructuring on Independent Oil and Gas Operations." Petroleum Technology Transfer Council Workshop: Electrical Power Cost Reduction Methods in Oil and Gas Field Operations. Shreveport, Louisiana, October 13, 1998.
282. "How Will Utility Deregulation Affect Tourism." Louisiana Travel Promotion Association Annual Meeting, Alexandria, Louisiana. January 15, 1998.
283. "Reflections and Predictions on Electric Utility Restructuring in Louisiana." With Fred I. Denny. Louisiana State University, Center for Energy Studies Industry Associates Meeting. November 20, 1997.

284. "Electric Utility Restructuring in Louisiana." Hammond Chamber of Commerce, Hammond, Louisiana. October 30, 1997.
285. "Electric Utility Restructuring." Louisiana Association of Energy Engineers. Baton Rouge, Louisiana. September 11, 1997.
286. "Electric Utility Restructuring: Issues and Trends for Louisiana." Opelousas Chamber of Commerce, Opelousas, Louisiana. June 24, 1997.
287. "The Electric Utility Restructuring Debate In Louisiana: An Overview of the Issues." Annual Conference of the Public Affairs Research Council of Louisiana. Baton Rouge, Louisiana. March 25, 1997.
288. "Electric Restructuring: Louisiana Issues and Outlook for 1997." Louisiana State University, Center for Energy Studies Industry Associates Meeting, Baton Rouge, Louisiana, January 15, 1997.
289. "Restructuring the Electric Utility Industry." Louisiana Propane Gas Association Annual Meeting, Alexandria, Louisiana, December 12, 1996.
290. "Deregulating the Electric Utility Industry." Eighth Annual Economic Development Summit, Baton Rouge, Louisiana, November 21, 1996.
291. "Electric Utility Restructuring in Louisiana." Jennings Rotary Club, Jennings, Louisiana, November 19, 1996.
292. "Electric Utility Restructuring in Louisiana." Entergy Services, Transmission and Distribution Division, Energy Centre, New Orleans, Louisiana, September 12, 1996
293. "Electric Utility Restructuring" Louisiana Electric Cooperative Association, Baton Rouge, Louisiana, August 27, 1996.
294. "Electric Utility Restructuring -- Background and Overview." Louisiana Public Service Commission, Baton Rouge, Louisiana, August 14, 1996.
295. "Electric Utility Restructuring." Sunshine Rotary Club Meetings, Baton Rouge, Louisiana, August 8, 1996.
296. Roundtable Moderator, "Stakeholder Perspectives on Electric Utility Stranded Costs." Louisiana State University, Center for Energy Studies Seminar on Electric Utility Restructuring in Louisiana, Baton Rouge, May 29, 1996.
297. Panelist, "Deregulation and Competition." American Nuclear Society: Second Annual Joint Louisiana and Mississippi Section Meetings, Baton Rouge, Louisiana, April 20, 1996.

EXPERT WITNESS, LEGISLATIVE, AND PUBLIC TESTIMONY; EXPERT REPORTS, RECOMMENDATIONS, AND AFFIDAVITS

1. Expert Testimony. F.C. No. 1176. (2024). Before the Public Service Commission of the District of Columbia. *In the Matter of the Application of Potomac Electric Power Company for Authority to Implement a Multiyear Rate Plan for Electric Distribution Service in the District of Columbia*. On Behalf of the Office of the People's Counsel for the District of Columbia. Issues: affordability, revenue distribution, rate design, multi-year rate planning, bill stabilization adjustment.

2. Expert Testimony. Docket No. DPU 23-81. (2023). Before the Commonwealth of Massachusetts Department of Public Utilities. *Petition of Fitchburg Gas and Electric Light Company d/b/a Unutil (Gas Division), pursuant to G.L. c. 164, § 94 and 220 CMR 5.00, for Approval of a General Increase in Base Distribution Rates for Gas Service and a Performance-Based Ratemaking Plan*. On Behalf of the Massachusetts Office of the Attorney General, Office of Ratepayer Advocacy. Issues: alternative regulation performance-based ratemaking, cost of service, revenue distribution, rate design.
3. Expert Testimony. Docket No. DPU 23-80. (2023). Before the Commonwealth of Massachusetts Department of Public Utilities. *Petition of Fitchburg Gas and Electric Light Company d/b/a Unutil (Electric Division), pursuant to G.L. c. 164, § 94 and 220 CMR 5.00, for Approval of a General Increase in Base Distribution Rates for Electric Service and a Performance-Based Ratemaking Plan*. On Behalf of the Massachusetts Office of the Attorney General, Office of Ratepayer Advocacy. Issues: alternative regulation performance-based ratemaking, cost of service, revenue distribution, rate design.
4. Expert Testimony. Cause No. 45933 (2023). Before the Indiana Utility Regulatory Commission. *Petition of Indiana Michigan Power Company an Indiana Corporation, for authority to increase rates and charges for electric utility service through a phase in rate adjustment; and for approval of related relief including: (1) revised depreciation rates, including cost of removal less salvage, and updated depreciation expense; (2) accounting relief, including deferrals and amortization; (3) inclusion of capital investment; (4) rate adjustment mechanism proposals, including new grant projects rider and modified tax rider; (5) a voluntary residential customer powerpay program; (6) waiver or declination of jurisdiction with respect to certain rules to facilitate implementation of the powerpay program; (7) cost recovery for cook plant subsequent license renewal evaluation project; and (8) new schedules of rates, rules and regulations*. On Behalf of Indiana Office of Utility Consumer Counselor. Issues: cost of service, rate design, revenue distribution, service fees.
5. Expert Report. (2023). *Alternative regulation deficiencies and potential ratepayer harms*. On Behalf of the Office of the Consumer Advocate of Iowa. October 3, 2023.
6. Expert Testimony. Docket No. 2023.06.057. (2023). Before the Public Service Commission of the State of Montana. *In the Matter of Energy West Montana's Application for Approval of Gas Cost Hedging Plan for West Yellowstone*. On Behalf of the Montana Consumer Counsel. Issues: gas hedging program.
7. Legislative Testimony. (2023). Ratepayer harms from alternative regulation in Oklahoma. Appearing on the Behalf of the Petroleum Alliance of Oklahoma. October 23, 2023.
8. Expert Testimony. Cause No. 45911. (2023). Before the State of Indiana Utility Regulatory Commission. *Petition of Indianapolis Power & Light Company D/B/A AES Indiana ("AES Indiana") for authority to increase rates and charges for electric utility service, and for approval of related relief, including (1) revised depreciation rates, (2) accounting relief, including deferrals and amortizations, (3) inclusion of capital investments, (4) rate adjustment mechanism proposals, including new economic development rider, (5) remote disconnect/reconnect process and (6) new schedules of rates, rules and regulations for service*. On Behalf of Indiana Office of Utility Consumer Counselor. Direct and Cross-Answering. Issues: allocated cost of service, revenue distribution, rate design, trackers.

9. Expert Testimony. Docket No. 23-06007. (2023). Before the Public Utilities Commission of Nevada. *In the Matter of the Application by Nevada Power Company D/B/A NV Energy, filed pursuant to NRS 704.110(3) and NRS 704.110(4), addressing its annual revenue requirement for general rates charged to all classes of electric customers.* On Behalf of the Nevada Bureau of Consumer Protection. Issues: marginal cost of service study, embedded cost of service study, revenue distribution, rate design.
10. Expert Testimony. Docket No. UE-230172. (2023). Before the Washington Utilities and Transportation Commission. *Washington Utilities and Transportation Commission, Complainant v. Pacificorp dba Pacific Power & Light Company, Respondent.* On Behalf of the Washington State Office of the Attorney General Public Counsel Unit. Issues: rate design, revenue distribution, cost of service.
11. Expert Testimony. Case No. U-21389. (2023). Before the Michigan Public Service Commission. *In the Matter of the Application of Consumers Energy Company for Authority to Increase its Rates for the Generation and Distribution of Electricity and for other Relief.* On Behalf of the Michigan Department of the Attorney General. Issues: capital expenditure adjustments, overview of proposal.
12. Expert Report. Case No. 22-1094-WW-AIR. (2023). *Audit of the Application to Increase Rates of Aqua Ohio, Inc. For the Period July 1, 2022 through June 30, 2023.* Prepared for the Public Utilities Commission of Ohio. Issues: cost of service, billing determinants, revenue distribution, rate design.
13. Expert Report. Case No. 22-1096-ST-AIR. (2023). *Audit of the Application to Increase Rates of Aqua Ohio Wastewater, Inc. For the period July 1, 2022 through June 30, 2023.* Prepared for the Public Utilities Commission of Ohio. Issues: cost of service, billing determinants, revenue distribution, rate design.
14. Expert Report. *Analysis of the effectiveness and ratepayer impacts regarding the Natural Gas Rate Stabilization Act of 2005. (S.C. Code Ann. Section 58-5-410).* On Behalf of the South Carolina Department of Consumer Affairs. July 27, 2023.
15. Expert Testimony. Docket No. 2023-70-G. (2023). Before the Public Service Commission of South Carolina. *In the Matter of: Dominion Energy South Carolina, Inc's application for adjustments in its natural gas rate schedules and tariffs.* On Behalf of the South Carolina Department of Consumer Affairs. Issues: revenue credit, revenue distribution, rate design. Direct and Surrebuttal.
16. Expert Testimony. Docket No. E-01345A-22-0144. (2023). Before the Arizona Corporation Commission. *In the Matter of the Application of Arizona Public Service Company for a hearing to determine the fair value of the utility property of the company for ratemaking purposes, to fix a just and reasonable rate of return thereon, and to approve rate schedules designed to develop such return.* On Behalf of the Utilities Division Arizona Corporation Commission. Issues: cost of service, revenue distribution, rate design. Direct and Surrebuttal.
17. Expert Testimony. Docket No. 23-0068 (consol.) 23-0069. (2023). Before the Illinois Commerce Commission. *North Shore Gas Company, The Peoples Gas Light and Coke Company Proposed general increase in rates and revisions to service classifications, riders and terms and conditions of service.* On Behalf of the People of the State of Illinois.

- Issues: integrity management, infrastructure metrics, natural gas policy, state gas policy.
18. Expert Testimony. Docket No. 23-067. (2023). Before the Illinois Commerce Commission. *Ameren Illinois Company Proposed general increase in gas delivery service rates*. On Behalf of the Illinois Attorney General. Issues: integrity management, infrastructure metrics, natural gas policy, state gas policy.
 19. Expert Testimony. Docket No. 23-066. (2023). Before the Illinois Commerce Commission. *Northern Illinois Gas Company d/b/a Nicor Gas Company Proposed general increase in gas rates*. On Behalf of the People of the State of Illinois. Issues: integrity management, infrastructure metrics, natural gas policy, state gas policy.
 20. Expert Testimony. Docket No. U-22-081. (2023). Before the Regulatory Commission of Alaska. *In the Matter of the Revenue Requirement Study Designated as TA334-4 Filed by Enstar Natural Gas Company, A Division of SEMCO Energy, Inc.* On Behalf of the Attorney General, Regulatory Affairs & Public Advocacy Section. Issues: cost of service, rate design, revenue distribution.
 21. Expert Testimony. Docket No. U-22-078. (2023). Before the Regulatory Commission of Alaska. *In the Matter of the Revenue Requirement Study and Tariff Filing Designated as TA510-1 Filed by Alaska Electric Light & Power Company*. On Behalf of the Office of the Attorney General, Regulatory Affairs & Public Advocacy Section. Issues: cost of service, rate design, seasonal rates, revenue allocation, customer charge.
 22. Expert Testimony. Docket No. 2022.11.099. (2023). Before the Department of Public Service Regulation. *In the Matter of Montana-Dakota Utilities Co. for Authority to Establish Increased Rates for Electric Service*. On Behalf of the Montana Consumer Counsel. Direct and Cross-Answering. Issues: rate increase, cost of service study, marginal cost of service, revenue allocation, rate design.
 23. Expert Testimony. Docket No. U-22-078. (2023). Before the Regulatory Commission of Alaska. *In the Matter of the Revenue Requirement Study and Tariff Filing Designated as TA510-1 Filed by Alaska Electric Light & Power Company*. On Behalf of the Office of the Attorney General, Regulatory Affairs & Public Advocacy Section. Issues: rate design, cost of service, revenue allocation, seasonal rates.
 24. Expert Testimony. Docket No. U-21193. (2023). Before the Michigan Public Service Commission. *In the matter of the Application of DTE Electric Company for Approval of its Integrated Resource Plan pursuant to MCL 460.6t, and for other relief*. On Behalf of the Michigan Department of the Attorney General. Issues: Resource planning, coal retirements, asset amortization, financial compensation mechanism.
 25. Expert Testimony. Docket No. RP22-1033. (2023). Before the Federal Energy Regulatory Commission. *Northern Natural Gas Company*. On Behalf of the Northern Municipal Distributors Group and the Midwest Region Gas Task Force Association. Issues: tariff provisions, rate analysis, discount adjustment.
 26. Expert Testimony. Docket No. 22-061-U. (2023). Before the Arkansas Public Service Commission. *In the Matter of an Investigation into Potential Cost Shifting Associated with Net Metering*. On Behalf of the Office of Tim Griffin, Attorney General of Arkansas. Issues: policy, net metering background.

27. Expert Testimony. Docket No. 22F-0263EG. (2023). Before the Public Utility Commission of the State of Colorado. *Olson's Greenhouses of Colorado, LLC. Complainant, v. Public Service Company of Colorado Respondent*. On Behalf of Olson's Greenhouses of Colorado, LLC. Issues: reliability, system upgrades, weather normalization.
28. Expert Testimony. Docket No. 2022.07.078. (2022). Before the Public Service Commission of the State of Montana. *In the Matter of NorthWestern Energy's Application for Authority to Increase Retail Electric and Natural Gas Utility Rates and for Approval of Electric and Natural Gas Service Schedules and Rules and Allocated Cost of Service and Rate Design*. On Behalf of the Montana Consumer Counsel. Direct and Cross-Intervenor. Issues: riders, fixed cost recovery mechanism, power cost adjustment, cost of service, revenue distribution.
29. Expert Testimony. Docket No 2022-254-E. (2022). Before the Public Service Commission of South Carolina. *In the Matter of: Application of Duke Energy Progress, LLC for Authority to Adjust and Increase its Electric Rates and Charges*. On Behalf of South Carolina Department of Consumer Affairs. Direct and Surrebuttal. Issues: Cost of service, revenue allocation, rate design.
30. Expert Testimony Docket No. 22-06014. (2022). *Before the Public Utilities Commission of Nevada. In the Matter of the Application by Sierra Pacific Power Company D/B/A NV Energy, filed pursuant to NRS 704.110(3) and NRS 704.110(4), addressing its annual revenue requirement for general rates charged to all classes of electric customers*. On Behalf of the Nevada Bureau of Consumer Protection. Issues: rate design, cost of services, marginal cost of service, revenue distribution.
31. Expert Testimony Docket No. 2022.06.067. (2022). *Before the Public Service Commission of the State of Montana. In RE NorthWestern Energy's Application for an Advanced Metering Opt-Out Tariff*. On Behalf of the Montana Consumer Counsel. Direct and Rebuttal. Issues: meter issues, opt-out fees, tariffs options.
32. Expert Testimony Docket No. 16-036-FR. (2022). *Before the Arkansas Public Service Commission. In the Matter of the Formula Rate Plan Filings of Entergy Arkansas, INC., Pursuant to APSC Docket NO. 15-015-U. On Behalf of the Arkansas Attorney General Leslie Rutledge*. Issues: Rate design, netting adjustment, performance standards, projected year adjustments.
33. Expert Testimony Formal Case No. 1169. (2022). *Before the Public Service Commission of the District of Columbia. In the Matter of the application of Washington Gas Light Company for authority to increase existing rates and charges for gas service*. On Behalf of the People's Counsel for the District of Columbia. Direct and Rebuttal. Issues: Revenue allocation, weather normalization, rate design.
34. Expert Testimony Case No. U-21224. (2022). *Before the Michigan Public Service Commission. In the Matter of the Application of Consumers Energy Company for authority to increase its rates for the generation and distribution of electricity and for other relief*. On Behalf of the Michigan Department of the Attorney General. Issues: cost of service, revenue distribution, policy overview.
35. Expert Report. Case No. 695287. (2022). Before the Nineteenth Judicial District Court, The Parish of East Baton Rouge, State of Louisiana. *Washington-St. Tammany Electric*

- Cooperative, Inc. and Claiborne Electric Cooperative, Inc., Plaintiff v. Louisiana Generating, L.L.C., Defendant.* On Behalf of Louisiana Generating, L.L.C. Issues: environmental regulations, re-fueling, regulatory rules, collateral benefits.
36. Expert Report. Case No. 0:20-cv-60981-AMC. (2022). *Café, Gelato & Panini LLC, d/b/a Café Gelato Panini, on behalf of itself and all others similarly situated, Plaintiff v. Simon Property Group, Inc., Simon Property Group, L.P., M. S. Management Associates, Inc. And The Town Center at Boca Raton Trust, Defendant.* On Behalf of Simon Property Group, Inc.
 37. Expert Testimony Case No. U-20836. (2022). *Before the Michigan Public Service Commission. In the Matter of the Application of DTE Electric Company for authority to increase its rates, amend its rate schedules and rules governing the distribution and supply of electric energy, and for miscellaneous accounting authority.* On Behalf of the Michigan Department of the Attorney General. Issues: cost of service, revenue distribution, peer comparison.
 38. Expert Testimony. D.P.U. 22-22. (2022). *Before the Department of Public Utilities of the Commonwealth of Massachusetts. Petition of NSTAR Electric Company d/b/a Eversource Energy for Approval of a Performance-Based Ratemaking Plan and Increase in Base Distribution Rates for Electric Service Pursuant to G.L. c. 164, §94 and 220 C.M.R. §5.00.* On Behalf of Massachusetts Office of the Attorney General Office of Ratepayer Advocacy. Issues: rate design, TFP analysis, rate increases, benchmark analysis, revenue distribution. Direct and Surrebuttal.
 39. Expert Testimony. Docket No. 21-097-U. (2022). *In the Matter of the Application of Black Hills Energy Arkansas, Inc. for Approval of a General Change in Rates and Tariffs.* On Behalf of the Office of Arkansas Attorney General. Issues: cost of service, rate design, reliability, billing determinant adjustment.
 40. Expert Testimony. Docket No. 2021-361-G. (2022). *Before the Public Service Commission of South Carolina. In the Matter of: Dominion Energy South Carolina, Inc.'s Request for Approval of New Natural Gas Energy Efficiency Programs.* On Behalf of South Carolina Department of Consumer Affairs. Issues: DSM Rider, energy efficiency, shared savings. Direct and Surrebuttal.
 41. Expert Report. Case No. 21-596-ST-AIR. (2022). *Audit of the Application to Increase Rates of Aqua Ohio Wastewater, Inc. For the Period January 1, 2021 through December 31, 2021.* Prepared for Public Utilities Commission of Ohio. Issues: rate design, cost of service, revenue distribution.
 42. Expert Report. Case No. 21-595-WW-AIR. (2022). *Audit of the Application to Increase Rates of Aqua Ohio, Inc. For the Period January 1, 2021 through December 31, 2021.* Prepared for Public Utilities Commission of Ohio. Issues: rate design, cost of service, revenue distribution.
 43. Expert Testimony. Docket No. 2021.09.112. (2022). *Before the Public Service Commission of the State of Montana. In the Matter of NorthWestern Energy's Annual PCCAM Filing and Application for Approval of Tariff Changes.* On Behalf of the Montana Consumer Counsel. Issues: wholesale energy hedging, market exposure, overview of PCCAM filing, demand side management costs.

44. Expert Affidavit. Docket No. 2:21-cv-1074. (2021). In the United States District Court for the Western District of Louisiana. *The State of Louisiana by and through its Attorney General, Jeff Landry et al. Plaintiffs, v. Joseph R. Biden, Jr., in his official capacity as President of the United States; et al., Defendants*. On Behalf of the Attorney General of Louisiana. Issues: social cost of carbon, carbon tax, environmental policy.
45. Expert Testimony. Case No. U21090. (2021). *Before the Michigan Public Service Commission. In the matter of the application of Consumers Energy Company for approval of its Integrated Resource Plan pursuant to MCL 460.6t, certain accounting approvals, and for other relief*. On Behalf of the Michigan Department of the Attorney General. Issues: IRP, coal plant retirements, acquisition premiums, financial compensation mechanism.
46. Expert Testimony. Docket No 16-036-FR. (2021). Before the Arkansas Public Service Commission. *In the Matter of the Formula Rate Plan Filings of Entergy Arkansas, Inc., Pursuant to APSC Docket No. 15-015-U*. On Behalf of the Office of Arkansas Attorney General Leslie Rutledge. Issues: netting adjustments, rate increases, projected year adjustments, reliability.
47. Expert Report. Docket JCCP No. 4861. (2021). Before the Superior Court of the State of California County of Los Angeles, Central Civil West. *Coordination Proceeding Special Title [Rule 3.550] Southern California Gas Leak Cases*. On Behalf of Toll Brothers. Issues: gas leak, public service obligation, integrity management.
48. Expert Testimony. Docket No. U-35927. (2021). Before the Louisiana Public Service Commission. *In Re: Application of 1803 Electric Cooperative, Inc. for Approval of Power Purchase Agreements and for Cost Recovery*. Direct and Cross-Answering. On Behalf of Cleco Cajun LLC. Issues: tolling agreements, generation acquisition, risk factors.
49. Expert Testimony. Docket No. 21-060-U. (2021). Before the Arkansas Public Service Commission. *In the Matter of Joint Application of Centerpoint Energy Resources Corp. and Summit Utilities Arkansas, Inc. For all Necessary Authorizations and Approvals for Summit Utilities Arkansas, Inc. To Acquire the Arkansas Assets of Centerpoint Energy Resources Corp. and for Approval of a Certificate of Public Convenience and necessity for Summit Utilities Arkansas, Inc.* Direct and Surrebuttal. On Behalf of the Office of Arkansas Attorney General Leslie Rutledge. Issues: asset acquisition, ratepayer benefits, acquisition synergies, Rider FRP.
50. Expert Affidavit. Civil Action No. 2:21-cv-00778 (2021). Before the United States District Court for the Western District of Louisiana. *The State of Louisiana v. Joseph R. Biden, Jr.* Issues: leasing and drilling moratorium, state revenue, coastal restoration, economic activity.
51. Expert Testimony. Docket No. 21-044-U (2021). Before the Arkansas Public Service Commission. *In the Matter of Centerpoint Energy Resources Corp. D/B/A Centerpoint Energy Arkansas Gas' Request to Extend Rider FRP*. On Behalf of the Office of Arkansas Attorney General Leslie Rutledge. Issues: ratepayer benefits, service quality, cost of service, FRP extension.
52. Expert Testimony. Docket No. 17-010-FR (2021). Before the Arkansas Public Service Commission. *In the Matter of the Formula Rate Plan Filings of Centerpoint Energy Resources Corp. D/B/A Centerpoint Energy Arkansas Gas Pursuant to APSC Docket No.*

- 15-098-U. On Behalf of the Office of Arkansas Attorney General Leslie Rutledge. Issues: rate increase, investment and expense trends, revenue deficiency, leak performance.
53. Expert Testimony. Case No. U-20963 (2021). Before the Michigan Public Service Commission. *In the Matter of the Application of Consumers Energy Company for authority to increase its rates for the generation and distribution of electricity and for other relief.* On Behalf of the Michigan Department of the Attorney General. Issues: cost of service, peak allocation, revenue distribution.
 54. Expert Testimony. U-20-072, U-20-073, U-20-074. (2021). Before the Regulatory Commission of Alaska. *In the Matter of the Revenue Requirement study and Tariff Filing designated as TA886-2 filed by Alaska Power Company, In the Matter of the Revenue Requirement study and Tariff filing designated as TA6-521 filed by Goat Lake Hydro, Inc., In the Matter of the Revenue Requirement study and Tariff filing designated as TA4-573 filed by BBL Hydro, Inc.* On Behalf of the Alaska Office of Attorney General. Issues: rate groups, cost of service.
 55. Expert Testimony. Docket No. P20-001. (2021). Before the Louisiana Pilotage Fee Commission. *In Re: Request for Increase in Approved Pilot Complement; Increased Funding for necessary Additional Manpower; Upward Adjustment of Estimated Average Annual Pilot Compensation; and Related Relief Pursuant to LA R.S. 34:112.* On Behalf of the Louisiana Chemical Association (LCA) and Louisiana Mid-Continent Oil & Gas Association (LMOGA). Issues: unreasonable requests, fee structure, economic impact, over earnings.
 56. Expert Testimony. D.P.U. 20-120. (2021). Before the Commonwealth of Massachusetts Before the Department of Public Utilities. *Petition of Boston Gas Company d/b/a National Grid Pursuant to G.L. c. 164, 94 and 220 C.M.R. 5.00 for Approval of an Increase in Base Distribution Rates and Approval of a Performance-Based Ratemaking Plan.* On Behalf of the Massachusetts Office of the Attorney General Office of Ratepayer Advocacy. Issues: rate increase, accelerated depreciation, benchmarking analysis, performance incentive mechanism.
 57. Expert Testimony. RPU-2020-0001. (2020). Before the Iowa Utilities Board. *In Re: Iowa-American Water Company.* On Behalf of the Office of Consumer Advocate. Issues: rate increase, test trackers, RSM accounting ratemaking construct.
 58. Expert Testimony. BPU Docket Nos. QO19010040 and GO20090622. (2020). Before the New Jersey Board of Public Utilities. *In the Matter of the Petition of New Jersey Natural Gas Company for Approval of Energy Efficiency Programs and the Associated Cost Recovery Mechanisms Pursuant to the Clean Energy Act, N.J.S.A. 48:3-87.8 et seq. and 48:3-98.1 et seq.* On behalf of the Division of Rate Counsel. Issues: CBA requirements, capacity benefits, volatility benefits.
 59. Expert Testimony. Docket No. 2020-125-E. (2020). Before the Public Service Commission of South Carolina. *In the Matter of: Application of Dominion Energy South Carolina, Incorporated for Adjustments of Rates and Charges (See Commission Order No. 2020-313).* On Behalf of the South Carolina department of Consumer Affairs. Issues: cost of service, revenue allocation, rate design.
 60. Answering Testimony. Before the United States of America Federal Energy Regulatory

- Commission. Docket No. RP20-614-000 and RP20-618-000. (2020). *Transcontinental Gas Pipe Line Company, LLC*. On Behalf of the North Carolina Utilities Commission. Issues: Tariff revisions, assessment of Transco claims.
61. Expert Testimony. Docket No. 16-036-FR. (2020). *Before the Arkansas Public Service Commission. In the Matter of the Formula Rate Plan Filings of Entergy Arkansas, Inc., Pursuant to APSC Docket No. 15-015-U. Direct and Surrebuttal*. On Behalf of the Arkansas Attorney General Leslie Rutledge. Issues: rate increases, investment and expenses trends, load forecast, historic year netting adjustment, reliability issues.
 62. Expert Testimony. Docket No. 2019.12.101. (2020). Before the Public Service Commission of the State of Montana. *In the Matter of NorthWestern Energy's Application for Approval of Capacity Resource Acquisition*. On the Behalf of the Montana Consumer Counsel. Issues: sale of capital asset, evaluation benefits, ratepayer cost exposure, reserve fund.
 63. Expert Testimony. Formal Case No. 1162. (2020). Before the Public Service Commission of the District of Columbia. *In the Matter of the Application of Washington Gas Light Company for Authority to Increase Existing Rates and Charges for Gas Service*. On Behalf of the Office of the People's Counsel. Issues: rate increase, revenue adjustment, weather normalization, rate design, revenue distribution.
 64. Expert Testimony. Docket No. E-01345A-19-0236. (2020). Before the Arizona Corporation Commission. *In the Matter of the Application of Arizona Public Service Company for Rate Making Purposes to Fix a Just and Reasonable Rate of Return Thereon, to Approve Rate Schedules Designed to Develop such Return*. Direct and Surrebuttal. On Behalf of the Utilities Division of the Arizona Corporation Commission. Issues: Cost of Service, Revenue Distribution, Rate Design.
 65. Expert Testimony. Docket No. 17-010-FR. (2020). Before the Arkansas Public Service Commission. *In the Matter of the Formula Rate Plan Filings of Centerpoint Energy Resources Corp. D/B/A Centerpoint Energy Arkansas Gas Pursuant to APSC Docket No. 15-098-U*. On Behalf of the Arkansas Attorney General Leslie Rutledge. Issues: rate increase, leak replacement and reduction, netting adjustment, revenue deficiency, accounting policy changes.
 66. Expert Testimony. Case No. U-20697. (2020). Before the Michigan Public Service Commission. *In the Matter of the Application of Consumers Energy Company for authority to increase its rates for the generation and distribution of electricity and for other relief*. On Behalf of the Michigan Department of Attorney General. Issues: cost of service, revenue distribution, rate design.
 67. Expert Testimony. Docket No. 2019.09.058. (2020). Before the Public Service Commission of the State of Montana. *In the Matter of NorthWestern Energy's Annual PCCAM Filing and Application for Approval of Tariff Changes*. On the Behalf of the Montana Consumer Counsel. Issues: purchase power expenses, cost sharing, PCAAM power cost.
 68. Expert Testimony. Formal Case No. 1156. (2020). Before the Public Service Commission of the District of Columbia. *In the matter of Potomac Electric Power Company for authority to implement a multiyear rate plan for electric distribution service in the district of*

- Columbia*. Direct, Rebuttal, Surrebuttal, Supplemental, and Second Supplemental. On Behalf of the Office of the People's Counsel. Issues: revenue distribution, rate design, customer charge, performance metric policies, performance metric incentives.
69. Expert Testimony. Case No. U-20561. (2019). Before the Michigan Public Service Commission. *In the matter of the Application of DTE Electric Company for authority to increase its rates, amend its rate schedules and rules governing the distribution and supply of electric energy, and for miscellaneous accounting authority*. On Behalf of the Michigan Department of Attorney General. Issues: Cost of service, allocation of production plant, allocation of sub-transmission plant, revenue distribution.
 70. Expert Testimony. Cause No. 45253. (2019). Before the Indiana Utility Regulatory Commission. *Petition of Duke Energy Indiana, LLC Pursuant to Ind. Code 8-1-2-42.7 and 8-1-2-61, for (1) Authority to Modify its Rates and Charges for Electric Utility Service through a Step-In of New Rates and Charges using a Forecasted Test Period; (2) Approval of New Schedules of Rates and Charges, General Rules and Regulations, and Riders; (3) Approval of a Federal Mandate Certificate Under Ind. Code 8-1-8.4-1; (4) Approval of Revised Electric Depreciation Rates Applicable to its Electric Plant in Service; (5) Approval of Necessary and Appropriate Accounting Deferral Relief; and (6) Approval of a Revenue Decoupling Mechanism for Certain Customers Classes*. On Behalf of the Indiana Office of Utility Consumer Counsel. Issues: Decoupling, revenue decoupling mechanism and design, commission policy, benchmarking analysis.
 71. Expert Testimony. Docket 19-019-U. (2019). Before the Arkansas Public Service Commission. *In the Matter of the Petition of Entergy Arkansas, LLC for Approval of a Build-Own-Transfer Arrangement for a Renewable Resource and for all other Related Approvals*. On Behalf of the Arkansas Attorney General Leslie Rutledge. Issues: Solar investment, risk assessment, proposed rider.
 72. Expert Testimony. Docket No. 16-036-FR. (2019). Before the Arkansas Public Service Commission. *In the Matter of the Formula Rate Plan Filings of Entergy Arkansas, Inc., Pursuant to APSC Docket No. 15-015-U*. On Behalf of the Arkansas Attorney General Leslie Rutledge. Issues: rate design, reliability, and formula rate plan.
 73. Expert Testimony. Docket No. 19-019-U. (2019). Before the Arkansas Public Service Commission. *In the Matter of the Petition of Entergy Arkansas, LLC for Approval of a Build-Own-Transfer Arrangement for a Renewable Resource and for all other Related Approvals*. On Behalf of the Arkansas Attorney General Leslie Rutledge. Issues: Solar project approval, ratepayer risk, cost allocation.
 74. Expert Testimony. Docket No. 17-010-FR. (2019). Before the Arkansas Public Service Commission. *In the Matter of the Formula Rate Plan Filings of Centerpoint Energy Resources Corp. D/B/A Centerpoint Energy Arkansas Gas Pursuant to APSC Docket No. 15-098-U*. On Behalf of the Arkansas Attorney General Leslie Rutledge. Issues: retail rates, leak analysis, revenue deficiency, investments.
 75. Expert Testimony. Case No. U-20471. (2019). Before the Michigan Public Service Commission. *In the matter of the Application of DTE Electric Company for approval of its Integrated Resource Plan pursuant to MCL 460.6t, and for other relief*. On Behalf of the Michigan Department of Attorney General. Issues: load forecasting, least-cost system planning.

76. Expert Report. Docket No. 18-004422. (2019). Before the State of Florida Division of Administrative Hearings. *Peoples Gas System vs. South Sumter Gas Company, LLC and the City of Leesburg*. On Behalf of the City of Leesburg. Issues: retail rates, customer growth, sales trends and forecasts, policy, cost of service, socio-economic trends and forecasts.
77. Expert Testimony. Docket Nos. GO18101112 and EO18101113. (2019). Before the New Jersey Board of Public Utilities. *In the Matter of the Public Service Electric and Gas Company for Approval of its Clean Energy Future-Energy Efficiency ("CEF-EE") Program on a Regulated Basis*. On behalf of the Division of Rate Counsel. Issues: economic impact, cost benefit analysis, decoupling mechanisms.
78. Expert Testimony. Docket Nos. EO18060629 and GO18060630. (2019). Before the New Jersey Board of Public Utilities. *In the Matter of the Public Service Electric and Gas Company for Approval of the Second Energy Strong Program (Energy Strong II)*. On behalf of the Division of Rate Counsel. Issues: economic impact, cost benefit analysis, infrastructure replacement, cost recovery tracker mechanisms.
79. Expert Report. Docket No. 2011-AD-2. (2019). On Behalf of the Mississippi Public Service Commission. *Order Establishing Docket to Investigate the Development and Implementation of Net Metering Programs and Standards*. On Behalf of the Mississippi Public Utilities Staff. Issues: Net-metering, distributed generation.
80. Expert Testimony. Docket No. D2018.2.12. (2018). Before the Public Service Commission of the State of Montana. *In the Matter of NorthWestern Energy's Application for Authority to Increase Retail Electric Utility Service Rates and for Approval of Electric Service Schedules and Rules and Allocated Cost of Service and Rate Design*. On Behalf of the Montana Consumer Counsel. Issues: Net-metering, cost of service, revenue distribution, rate design.
81. Expert Testimony. Docket No. 19-SEPE-054-MER. (2018). Before the Kansas Corporation Commission. *In the Matter of the Joint Application of Sunflower Electric Power Corporation and Mid-Kansas Electric Company, Inc. for an Order Approving the Merger of Mid-Kansas Electric Company, Inc. into Sunflower Electric Power Corporation*. On the Behalf of the Kansas Electric Power Cooperative, Inc. Issues: merger impacts, rates, tariffs.
82. Expert Testimony. Docket No. 18-046-FR. (2018). Before the Arkansas Public Service Commission. *In the Matter of the Formula Rate Plan Filings of Oklahoma Gas and Electric Company Pursuant to APSC Docket No. 16-052-U*. On Behalf of the Arkansas Attorney General Leslie Rutledge. Issues: formula rate plan, plant investment and expenses benchmarking analysis, reliability.
83. Expert Testimony. Docket No. 16-036-FR. (2018). Before the Arkansas Public Service Commission. *In the Matter of the Formula Rate Plan Filings of Entergy Arkansas, Inc., Pursuant to APSC Docket No. 15-015-U*. On Behalf of the Arkansas Attorney General Leslie Rutledge. Issues: rate design, reliability, and formula rate plan.
84. Expert Testimony. Docket No. 2017-AD-0112. (2018). Before the Mississippi Public Service Commission. *In Re: Encouraging Stipulation of Matters in Connection with the Kemper County IGCC Project*. On Behalf of the Mississippi Public Utilities Staff. Issues:

cost of service and rate design.

85. Expert Affidavit. Docket No. 87011-E. (2018). Before the 16th Judicial District Court Parish of St. Martin State of Louisiana. *Bayou Bridge Pipeline, LLC versus 38.00 Acres, More or Less, Located in St. Martin Parish; Barry Scott Carline, et al.* Issues: economic impacts.
86. Expert Testimony. Docket No. QO18080843. (2018). Before the New Jersey Board of Public Utilities. *In the Matter of the Petition of Nautilus Offshore Wind, LLC for the Approval of the State Waters Wind Project and Authorizing Offshore Wind Renewable Energy Certificates.* On behalf of the Division of Rate Counsel. Issues: regulatory policy and cost-benefit analyses.
87. Expert Testimony. Docket No. ER18010029 and GR18010030. (2018). Before the New Jersey Board of Public Utilities. *In the Matter of the Petition of Public Service Electric and Gas Company for Approval of an Increase in Electric and Gas Rates and for Changes in the Tariffs for Electric and Gas Service, B.P.U.N.J. No. 16 Electric and B.P.U.N.J No. 16 Gas, and for Changes in Depreciation Rates, Pursuant to N.J.S.A. 48:2-18, N.J.S.A. 48:2-21 and N.J.S.A. 48:2-21.1, and for Other Appropriate Relief.* On behalf of the Division of Rate Counsel. Issues: rate proposal, revenue decoupling, regulatory policy, cost benchmarking.
88. Expert Testimony. Docket No. T-34695. (2018). Before the Louisiana Public Service Commission. *In re: Application for a rate increase on service originating at Grand isle and termination at St. James for Crude Petroleum as currently outlined in LPSC Tariff No. 75.2.* On Behalf of Energy XXI GOM, LLC. Issues: cost of service, rate design, and alternative regulation.
89. Expert Testimony. Docket No. 17-071-U. (2018). Before the Arkansas Public Service Commission. *In the Matter of the Application of Black Hills Energy Arkansas, Inc. for Approval of a General Change in Rates and Tariffs.* On Behalf of the Arkansas Attorney General Leslie Rutledge. Issues: cost of service, rate design, billing determinates.
90. Expert Testimony. Docket No. 17-010-FR. (2018). Before the Arkansas Public Service Commission. *In the Matter of the Formula Rate Plan Filing of CenterPoint Energy Resources Corp. D/B/A CenterPoint Energy Arkansas Gas Pursuant to APSC Docket No. 15-098-U.* On Behalf of the Arkansas Attorney General Leslie Rutledge. Issues: cost of service, rate design, alternative regulation, formula rate plan.
91. Expert Testimony. Case No. PU-17-398. (2018). Before the North Dakota Public Service Commission. *In the Matter of the Application of Otter Tail Power Company for Authority to Increase Rates for Electric Utility Service in North Dakota.* On Behalf of the North Dakota Service Commission Advocacy Staff. Issues: cost of service, marginal cost of service, and rate design.
92. Expert Testimony. Docket No. 20170179-GU. (2018). Before the Florida Public Service Commission. *In re: Petition for rate increase and approval of depreciation study by Florida City Gas.* On Behalf of the Citizens of the State of Florida. Issues: policy issues concerning long-term gas capacity procurement.
93. Expert Testimony. Docket No. 18-KCPE-095-MER. (2018). Before the Kansas Corporation Commission. *In the Matter of the Joint Application of Great Plains Energy Incorporated, Kansas City Power & Light Company, and Westar Energy, Inc. for Approval*

- of the Merger of Westar, Inc. and Great Plains Energy Incorporated.* On the Behalf of the Kansas Electric Power Cooperative, Inc. Issues: merger/acquisition policy, financial risk, and ring-fencing.
94. Expert Testimony. Docket No. GR17070776. (2018). Before the New Jersey Board of Public Utilities. In the Matter of the Petition of Public Service Electric and Gas Company for Approval of the Next Phase of the Gas System Modernization Program and Associated Cost Recovery Mechanism (“GSMP II”). On behalf of the Division of Rate Counsel. Issues: economic impact, infrastructure replacement program rider, pipeline replacement, leak rate comparisons and cost benefit analysis.
 95. Expert Affidavit. Case No. 18-489. (2018). Before the Civil District Court for the Parish of Orleans, State of Louisiana. *Bayou Bridge Pipeline, LLC versus The White Castle Lumber and Shingle Company Limited and Jeanerette Lumber & Shingle CO. L.L.C.* Issues: economic impact of crude oil pipeline development.
 96. Expert Testimony. Docket No. 16-036-FR. (2017). Before the Arkansas Public Service Commission. *In the Matter of the Formula Rate Plan Filings of Entergy Arkansas, Inc., Pursuant to APSC Docket No. 15-015-U.* On behalf of the Office of the Arkansas Attorney General Leslie Rutledge. Issue: cost of service, rate design, alternative regulation, formula rate plan.
 97. Expert Testimony. Docket No. 2017-AD-0112. (2017). Before the Mississippi Public Service Commission. *In re: Encouraging Stipulation of Matters in Connection with the Kemper County IGCC Project.* On Behalf of the Mississippi Public Utilities Staff. Issues: financial analysis, rates and cost trends, economic impacts of proposal.
 98. Expert Testimony. Case No. 2017-00179. (2017). Before the Public Service Commission, Commonwealth of Kentucky. *Electronic Application of Kentucky power Company For (1) A General Adjustment of Its Rates for Electric Service; (2) An Order Approving Its 2017 Environmental Compliance Plan; (3) An Order Approving Its Tariffs and Riders; (4) An Order Approving Accounting Practices to Establish a Regulatory Asset or Liability Related to the Big Sandy 1 Operation Rider; and (5) An Order Granting All Other Required Approvals and Relief.* On Behalf of the Office of the Kentucky Attorney General. Issues: rate design, revenue allocation, economic development.
 99. Expert Testimony. Docket No. 17-010-FR. (2017). Before the Arkansas Public Service Commission. *In the Matter of the Formula Rate Plan Filing of CenterPoint Energy Resources Corp. D/B/A CenterPoint Energy Arkansas Gas Pursuant to APSC Docket No. 15-098-U.* On Behalf of the Arkansas Attorney General Leslie Rutledge. Issues: cost of service, rate design, alternative regulation, formula rate plan.
 100. Expert Testimony. Formal Case No. 1142. (2017). Before the Public Service Commission of the District of Columbia. *In the Matter of the Merger of AltaGas Ltd. and WGL Holdings, Inc.* On Behalf of the Office of the People’s Counsel. Issues: merger/acquisition policy, financial risk, ring-fencing, and reliability.
 101. Expert Testimony. D.P.U. 17-05. (2017). Before the Massachusetts Department of Public Utilities. *Petition of NSTAR Electric Company and Western Massachusetts Electric Company each d/b/a Eversource Energy for Approval of an Increase in Base Distribution Rates for Electric Service Pursuant to G.L. c. 164, § 94 and 220 C.M.R. § 5.00.* On Behalf

- of the Massachusetts Office of the Attorney General Office of Ratepayer Advocacy. Issues: performance-based ratemaking, multi-factor productivity estimation.
102. Deposition and Testimony. (2017) Before the Nebraska Section 70, Article 13 Arbitration Panel. *Northeast Nebraska Public Power District, City of South Sioux City Nebraska; City of Wayne, Nebraska; City of Valentine, Nebraska; City of Beatrice, Nebraska; City of Scribner, Nebraska; Village of Walthill, Nebraska, vs. Nebraska Public Power District*. On the Behalf of Baird Holm LLP for the Plaintiffs. Issues: rate discounts; cost of service; utility regulation, economic harm.
 103. Expert Testimony. Docket No. 16-052-U. (2017). Before the Arkansas Public Service Commission. *In the Matter of the Application of the Oklahoma Gas and Electric Company for Approval of a General Change in Rates, Charges and Tariffs*. On the Behalf of the Office of Arkansas Attorney General Leslie Rutledge. Issues: cost of service, rate design, alternative regulation, formula rate plan.
 104. Expert Testimony. Docket No. 16-KCPE-593-ACQ. (2016). Before the Kansas Corporation Commission. *In the Matter of the Joint Application of Great Plains Energy Incorporated, Kansas City Power & Light Company, and Westar Energy, Inc. for Approval of the Acquisition of Westar, Inc. by Great Plains Energy Incorporated*. On the Behalf of the Kansas Electric Power Cooperative, Inc. Issues: merger/acquisition policy, financial risk, and ring-fencing.
 105. Expert Testimony. Formal Case No. 1139. (2016). Before the Public Service Commission of the District of Columbia. *In the Matter of the Application of Potomac Electric Power Company for Authority to Increase Existing Retail Rates and Charges for Electric Distribution Service*. On the Behalf of the Office of the People's Counsel for the District of Columbia. Issues: cost of service, rate design, alternative regulation.
 106. Expert Affidavit. Docket No. CP15-558-000 (2016). Before the United States of America Federal Energy Regulatory Commission. *PennEast Pipeline Company, LLC*. Affidavit and Reply Affidavit. On the Behalf of the New Jersey Division of Rate Counsel. Issues: pipeline capacity, peak day requirements.
 107. Expert Testimony. Docket No. RPU-2016-0002. (2016). Before the Iowa Utilities Board. *In re: Iowa American Water Company application for revision of rates*. On behalf of the Office of Consumer Advocate. Issue: revenue stabilization mechanism, revenue decoupling.
 108. Expert Testimony. Docket No. 15-015-U. (2016). Before the Arkansas Public Service Commission. *In the Matter of the Formula Rate Plan Filings of Entergy Arkansas, Inc., Pursuant to APSC Docket No. 15-015-U*. On behalf of the Office of the Arkansas Attorney General Leslie Rutledge. Issue: formula rate plan evaluation.
 109. Expert Testimony. Docket Nos. 160021-EI, 160061-EI, 160062-EI, and 160088-EI. (2016). Before the Florida Public Service Commission. *In re: Petition for rate increase by Florida Power & Light Company (consolidated)*. On behalf of the Citizens of the State of Florida. Issue: load forecasting.
 110. Expert Testimony. Docket Nos. 160021-EI, 160061-EI, 160062-EI, and 160088-EI. (2016). Before the Florida Public Service Commission. *In re: Petition for rate increase by*

- Florida Power & Light Company (consolidated)*. On behalf of the Citizens of the State of Florida. Issue: off-system sales incentives.
111. Expert Testimony. Project No. 5-103. (2016). United States of America Federal Energy Regulatory Commission. *Confederated Salish and Kootenai Tribes Energy Keepers, Incorporated*. On behalf of the Flathead, Mission, and Jocko Valley Irrigation Districts and the Flathead Joint Board of Control of the Flathead, Mission, and Jocko Valley Irrigation Districts.
 112. Expert Testimony. Docket No. 15-098-U. (2016). Before the Arkansas Public Service Commission. *In the Matter of the Application of CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Arkansas Gas for a General Change or Modification in its Rates, Charges and Tariffs*. On behalf of the Office of the Arkansas Attorney General. Issues: formula rate plan, cost of service and rate design.
 113. Expert Testimony. BPU Docket No. GM15101196. (2016). *In the Matter of the Merger of Southern Company and AGL Resources, Inc.* On behalf of the New Jersey Division of Rate Counsel. Issues: merger standards of review, customer dividend contributions, synergy savings and costs to achieve, ratemaking treatment of merger-related costs.
 114. Expert Testimony. Docket No. 15-078-U. (2015). Before the Arkansas Public Service Commission. *In the Matter of the Joint Application of SourceGas Inc., SourceGas LLC, SourceGas Holdings LLC and Black Hills Utility Holdings, Inc. for all Necessary Authorizations and Approvals for Black Hills Utility Holdings, Inc. to Acquire SourceGas Holdings LLC*. On behalf of the Office of the Arkansas Attorney General. Issues: public policy and regulatory policy associated with the acquisition.
 115. Expert Testimony. Docket No. 15-031-U. (2015). Before the Arkansas Public Service Commission. *In the Matter of the Application of SourceGas Arkansas Inc. for an Order Approving the Acquisition of Certain Storage Facilities and the Recovery of Investments and Expenses Associated Therewith*. On behalf of the Office of the Arkansas Attorney General. Issues: cost-benefit analysis, transmission cost analysis, and a due diligence analysis.
 116. Expert Testimony. Docket No. 15-015-U. (2015). Before the Arkansas Public Service Commission. *In the Matter of the Application of Entergy Arkansas, Inc. for Approval of Changes in Rates for Retail Electric Service*. On behalf of the Office of the Arkansas Attorney General. Issues: economic development riders and production plant cost allocation.
 117. Expert Testimony. Docket No. 7970. (2015). Before the Vermont Public Service Board. *Petition of Vermont Gas Systems, Inc., for a certificate of public good pursuant to 30 V.S.A. § 248, authorizing the construction of the "Addison Natural Gas Project" consisting of approximately 43 miles of new natural gas transmission pipeline in Chittenden and Addison Counties, approximately 5 miles of new distribution mainlines in Addison County, together with three new gate stations in Williston, New Haven, and Middlebury, Vermont*. On behalf of AARP-Vermont. Issues: net economic benefits of proposed natural gas transmission project.
 118. Expert Testimony. File No. ER-2014-0370 (2015). Before the Public Service Commission of the State of Missouri. *In the Matter of Kansas City Power & Light Company for Authority*

- Implement A General Rate Increase for Electric Service.* On behalf of the Missouri Office of the People's Counsel. Issues: customer charges, rate design, revenue distribution, class cost of service, and policy and ratemaking considerations in connection with electric vehicle charging stations.
119. Expert Testimony. File No. ER-2014-0351 (2015). Before the Public Service Commission of the State of Missouri. *In the Matter of The Empire District Electric Company for Authority To File Tariffs Increasing Rates for Electric Service Provided to Customers In the Company's Missouri Service Area.* On behalf of the Missouri Office of the People's Counsel. Issues: customer charges, rate design, revenue distribution, and class cost of service.
 120. Expert Testimony. D.P.U. 14-130 (2015). Before the Massachusetts Department of Public Utilities. *Petition of Fitchburg Gas and Electric Light Company d/b/a Unitil for approval by the Department of Public Utilities of the Company's 2015 Gas System Enhancement Program Plan, pursuant to G.L. c. 164, § 145, and for rates effective May 1, 2015.* On behalf of the Attorney General's Office. Issues: ratepayer protections, cost allocations, rate design, performance metrics.
 121. Expert Testimony. D.P.U. 14-131 (2015). Before the Massachusetts Department of Public Utilities. *Petition of The Berkshire Gas Company for approval by the Department of Public Utilities of the Company's Gas System Enhancement Program Plan for 2015, pursuant to G.L. c. 164, § 145, and for rates effective May 1, 2015.* On behalf of the Attorney General's Office. Issues: ratepayer protections, cost allocations, rate design, performance metrics.
 122. Expert Testimony. D.P.U. 14-132 (2015). Before the Massachusetts Department of Public Utilities. *Petition of Boston Gas Company and Colonial Gas Company d/b/a National Grid for approval by the Department of Public Utilities of the Companies' Gas System Enhancement Program for 2015, pursuant to G.L. c. 164, § 145, and for rates effective May 1, 2015.* On behalf of the Attorney General's Office. Issues: ratepayer protections, cost allocations, rate design, performance metrics.
 123. Expert Testimony. D.P.U. 14-133 (2015). Before the Massachusetts Department of Public Utilities. *Petition of Liberty Utilities for approval by the Department of Public Utilities of the Company's Gas System Enhancement Program Plan for 2015, pursuant to G.L. c. 164, § 145, and for rates effective May 1, 2015.* On behalf of the Attorney General's Office. Issues: ratepayer protections, cost allocations, rate design, performance metrics.
 124. Expert Testimony. D.P.U. 14-134 (2015). Before the Massachusetts Department of Public Utilities. *Petition of Bay State Gas Company d/b/a Columbia Gas of Massachusetts for approval by the Department of Public Utilities of the Company's Gas System Enhancement Program Plan for 2015, pursuant to G.L. c. 164, § 145, and for rates to be effective May 1, 2015.* On behalf of the Attorney General's Office. Issues: ratepayer protections, cost allocations, rate design, performance metrics.
 125. Expert Testimony. D.P.U. 14-135 (2015). Before the Massachusetts Department of Public Utilities. *Petition of NSTAR Gas Company for approval by the Department of Public Utilities of the Company's Gas System Enhancement Program Plan for 2015, pursuant to G.L. c. 164, § 145, and for rates to be effective May 1, 2015.* On behalf of the Attorney General's Office. Issues: ratepayer protections, cost allocations, rate design, performance metrics.

126. Expert Report. Docket No. X-33192 (2015). Before the Louisiana Public Service Commission. *Examination of the Comprehensive Costs and Benefits of Net Metering in Louisiana*. On behalf of the Louisiana Public Service Commission. Issues: cost-benefit, cost of service, rate impact.
127. Expert Testimony. F.C. 1119 (2014). Before the District of Columbia Public Service Commission. *In the Matter of the Merger of Exelon Corporation, Pepco Holdings, Inc., Potomac Electric Power Company, Exelon Energy Delivery Company, LLC, and new Special Purpose Entity, LLC*. On behalf of the Office of the People's Counsel. Issues: economic impact analysis, reliability, consumer investment fund, regulatory oversight, impacts to competitive electricity markets.
128. Expert Report. Civil Action 1:08-cv-0046 (2014). Before the U.S. District Court for the Southern District of Ohio. *Anthony Williams, et al., v. Duke Energy International, Inc., et al.* On behalf of Markovits, Stock & DeMarco, Attorneys & Counselors at Law. Issues: public utility regulation, electric power markets, economic harm.
129. Expert Testimony. D.P.U. 14-64 (2014). Before the Massachusetts Department of Public Utilities. *NSTAR Gas Company/HOPCO Gas Services Agreement*. On behalf of the Office of the Public Advocate. Issues: certain ratemaking features associated with the proposed Gas Service Agreement.
130. Expert Testimony. Docket Nos. 14-0224 and 14-0225 (2014). Before the Illinois Commerce Commission. *In the Matter of the Peoples Gas Light and Coke Company and North Shore Gas Company Proposed General Increase in Rates for Gas Service (consolidated)*. On behalf of the People of the State of Illinois. Issues: test year expenses, cost benchmarking analysis, pipeline replacement, and leak rate comparisons.
131. Expert Testimony. Docket 8191 (2014). Before the Vermont Public Service Board. *In Re: Petition of Green Mountain Power Corporation for Approval of a Successor Alternative Regulation Plan*. On the behalf of AARP-Vermont. Issues: Alternative Regulation.
132. Expert Testimony. Docket No. 2013-00168 (2014). Before the Maine Public Utilities Commission. *In the Matter of the Request for Approval of an Alternative Rate Plan (ARP 2014) Pertaining to Central Maine Power Company*. On behalf of the Office of the Public Advocate. Issues: class cost of service study, marginal cost of service study, revenue distribution and rate design.
133. Expert Testimony. D.P.U. 13-90 (2013). Before the Massachusetts Department of Public Utilities. *Petition of Fitchburg Gas and Electric Light Company (Electric Division) d/b/a Unitil to the Department of Public Utilities for approval of the rates and charges and increase in base distribution rates for electric service*. On behalf of the Office of the Ratepayer Advocate. Issues: capital cost adjustment mechanism and performance-based regulation.
134. Expert Testimony. BPU Docket Nos. EO13020155 and GO13020156. (2013). Before the State of New Jersey Board of Public Utilities. *I/M/O The Petition of Public Service Electric & Gas Company for the Approval of the Energy Strong Program*. On behalf of the Division of Rate Counsel. Issues: economic impact, infrastructure replacement program rider, pipeline replacement, leak rate comparisons and cost benefit analysis.
135. Expert Testimony. D.P.U. 13-75 (2013). Before the Massachusetts Department of Public

- Utilities. *Investigation by the Department of Public Utilities on its Own Motion as to the Propriety of the Rates and Charges by Bay State Gas Company d/b/a Columbia Gas of Massachusetts set forth in Tariffs M.D.P.U. Nos. 140 through 173, and Approval of an Increase in Base Distribution Rates for Gas Service Pursuant to G.L. c. 164, § 94 and 220 C.M.R. § 5.00 et seq., filed with the Department on April 16, 2013, to be effective May 1, 2013.* On the Behalf of the Office of the Attorney General, Office of Ratepayer Advocacy. Issues: Target infrastructure replacement program rider, pipeline replacement, and leak rate comparisons; environmental benefits analysis; O&M offset; and cost benchmarking analysis.
136. Expert Testimony. Docket No. 13-115 (2013). Before the Delaware Public Service Commission. *In the Matter of the Application of Delmarva Power & Light Company FOR an Increase in Electric Base Rates and Miscellaneous Tariff Changes* (Filed March 22, 2013). On the Behalf of Division of the Public Advocate. Issues: pro forma infrastructure proposal, class cost of service study, revenue distribution, and rate design.
 137. Expert Testimony. Formal Case No. 1103 (2013). Before the Public Service Commission of the District of Columbia. *In the Matter of the Application of the Potomac Electric Power Company for Authority to Increase Existing Retail Rates and Charges for Electric Distribution Service.* On the Behalf of the Office of the People's Counsel of the District of Columbia. Issues: Pro forma adjustment for reliability investments.
 138. Expert Testimony. Case No. 9326 (2013). Before the Public Service Commission of Maryland. *In the Matter of the Application of Baltimore Gas and Electric Company for Adjustments to its Electric and Gas Base Rates.* On the Behalf of the Maryland Office of the People's Counsel. Issues: Electric Reliability Investment ("ERI") initiatives, pro forma gas infrastructure proposal, tracker mechanisms, class cost of service study, revenue distribution, and rate design
 139. Rulemaking Testimony. (2013). Before the Louisiana Tax Commission. Examination of Louisiana Assessors' Association Well Diameter Analysis, economic development policies regarding midstream assets and industrial development.
 140. Expert Testimony. Case No. 9317 (2013). Before the Public Service Commission of Maryland. *In the Matter of the Application of Delmarva Power & Light Company for Adjustments to its Retail Rates for the Distribution of Electric Energy.* Direct, and Surrebuttal. On the Behalf of the Maryland Office of the People's Counsel. Issues: Grid Resiliency Charge, tracker mechanisms, pipeline replacement, class cost of service study, revenue distribution, and rate design.
 141. Expert Testimony. Case No. 9311 (2013). Before the Public Service Commission of Maryland. *In the Matter of the Application of Potomac Electric Power Company for an Increase in its Retail Rates for the Distribution of Electric Energy.* Direct, and Surrebuttal. On the Behalf of the Maryland Office of the People's Counsel. Issues: Grid Resiliency Charge, tracker mechanisms, pipeline replacement, class cost of service study, revenue distribution, and rate design.
 142. Expert Testimony. Docket No. 12AL-1268G (2013). Before the Public Utilities Commission of the State of Colorado. *In the Matter of the Tariff Sheets Filed by Public Service Company of Colorado with Advice No. 830 – Gas. Answer.* On the Behalf of the Colorado Office of Consumer Counsel. Issues: Pipeline System Integrity Adjustment, tracker

mechanisms, pipeline replacement and leak rate comparisons.

143. Expert Testimony. BPU Docket No. EO12080721 (2013). Before the New Jersey Board of Public Utilities. *In the Matter of the Public Service Electric & Gas Company for Approval of an Extension of Solar Generation Program*. On the Behalf of the New Jersey Division of Rate Counsel. Direct, Rebuttal, Surrebuttal. Issues: solar energy market design, solar energy market conditions, solar energy program design and net economic benefits.
144. Expert Testimony. BPU Docket No. EO12080726 (2013). Before the New Jersey Board of Public Utilities. *In the Matter of the Petition of Public Service Electric & Gas Company for Approval of a Solar Loan III Program*. On the Behalf of the New Jersey Division of Rate Counsel. Direct, Rebuttal and Surrebuttal. Issues: solar energy market design, solar energy market conditions, solar energy program design.
145. Expert Testimony. BPU Docket No. EO11050314V. (2012). Before the New Jersey Board of Public Utilities. *In the Matter of the Petition of Fishermen's Atlantic City Windfarm, LLC for the Approval of the State Waters Project and Authorizing Offshore Wind Renewable Energy Certificates*. On the Behalf of the New Jersey Division of Rate Counsel. December 17, 2012. Issues: approval of offshore wind project and ratepayer financial support for the proposed project.
146. Expert Testimony. D.P.U. 12-25. (2012). Before the Massachusetts Department of Public Utilities. *In the Matter of Bay State Gas Company d/b/a/ Columbia Gas Company of Massachusetts Request for Increase in Rates*. On the Behalf of the Office of the Attorney General, Office of Ratepayer Advocacy. Issues: Target infrastructure replacement program rider, pipeline replacement and leak rate comparisons.
147. Expert Testimony. Docket Nos. UE-120436, et.al. (consolidated). (2012). Before the Washington Utilities and Transportation Commission. *Washington Utilities and Transportation Commission v. Avista Corporation D/B/A Avista Utilities*. On the Behalf of the Washington Attorney General, Office of the Public Counsel. Issues: Revenue Decoupling, lost revenues, tracker mechanisms, attrition adjustments.
148. Expert Testimony. Case No. 9286. (2012) Before the Public Service Commission of Maryland. *In Re: Potomac Electric Power Company ("Pepco") General Rate Case*. On the Behalf of the Maryland Office of the People's Counsel. Issues: Capital tracker mechanisms/reliability investment mechanisms, reliability issues, regulatory lag, class cost of service, revenue distribution, rate design.
149. Expert Testimony. Case No 9285. (2012) Before the Public Service Commission of Maryland. *In Re: the Delmarva Power and Light Company General Rate Case*. On the Behalf of the Maryland Office of the People's Counsel. Issues: Capital tracker mechanisms/reliability investment mechanisms, reliability issues, regulatory lag, class cost of service, revenue distribution, rate design.
150. Expert Testimony. Docket Nos. UE-110876 and UG-110877 (consolidated). (2012). Before the Washington Utilities and Transportation Commission. *Washington Utilities and Transportation Commission v. Avista Corporation D/B/A Avista Utilities*. On the Behalf of the Washington Attorney General, Office of the Public Counsel. Issues: Revenue Decoupling, lost revenues, tracker mechanisms.
151. Expert Testimony. BPU Docket No. EO11050314V. (2012). Before the New Jersey

- Board of Public Utilities. *In the Matter of the Petition of Fishermen's Atlantic City Windfarm, LLC for the Approval of the State Waters Project and Authorizing Offshore Wind Renewable Energy Certificates*. On the Behalf of the New Jersey Division of Rate Counsel. February 3, 2012. Issues: approval of offshore wind project and ratepayer financial support for the proposed project.
152. Expert Testimony. Docket No. NG 0067. (2012). Before the Public Service Commission of Nebraska. *In the Matter of the Application of SourceGas Distribution, LLC Approval of a General Rate Increase*. On the Behalf of the Public Advocate. January 31, 2012. Issues: Revenue Decoupling, Customer Adjustments, Weather Normalization Adjustments, Class Cost of Service Study, Rate Design.
 153. Expert Testimony. Docket No. G-04204A-11-0158. (2011). Before the Arizona Corporation Commission. On the Behalf of the Arizona Corporation Commission Staff. *In the Matter of the Application of UNS Gas, Inc. for the Establishment of Just and Reasonable Rates and Charges Designed to Realize a Reasonable Rate of Return on the Fair Value of Its Arizona Properties*. Issues: Revenue Decoupling; Class Cost of Service Modeling; Revenue Distribution; Rate Design.
 154. Expert Testimony. Formal Case Number 1087. (2011). Before the Public Service Commission of the District of Columbia. On the Behalf of the Office of the People's Counsel of the District of Columbia. *In the Matter of the Application of Potomac Electric Power Company for Authority to Increase Existing Retail Rates and Charges for Electric Distribution Service*. Issues: Regulatory lag, ratemaking principles, reliability-related capital expenditure tracker proposals.
 155. Expert Affidavit. Case No. 11-1364. (2011). *The State of Louisiana, the Louisiana Department of Environmental Quality, and the Louisiana Public Service Commission v. United States Environmental Protection Agency and Lisa P. Jackson*. Before the United States Court of Appeals for the District of Columbia Circuit. On the behalf of the State of Louisiana, the Louisiana Department of Environmental Quality, and the Louisiana Public Service Commission. Issues: Impacts of environmental costs on electric utilities, compliance requirements, investment cost of mitigation equipment, multi-area dispatch modeling and plant retirements.
 156. Expert Affidavit. Docket No. EPA-HQ-OAR-2009-0491. (2011). Before the U.S. Environmental Protection Agency. *Federal Implementation Plans: Interstate Transport of Fine Particulate Matter and Ozone and Correction of SIP Approvals*. On the Behalf of the Louisiana Public Service Commission. Issues: Impacts of environmental costs on electric utilities, compliance requirements, investment cost of mitigation equipment, multi-area dispatch modeling and plant retirements.
 157. Expert Testimony. Case No. 9296. (2011). Before the Maryland Public Service Commission. *On the Behalf of the Maryland Office of People's Counsel. In the Matter of the Application of Washington Gas Light Company for Authority to Increase Existing Rates and Charges and Revise its Terms and Conditions for Gas Service*. Issues: Infrastructure Cost Recovery Rider; Class Cost of Service Modeling; Revenue Distribution; Rate Design.
 158. Expert Testimony. Docket No. G-01551A-10-0458. (2011). Before the Arizona Corporation Commission. On the Behalf of the Arizona Corporation Commission Staff. *In the Matter of the Application of Southwest Gas Corporation for the Establishment of Just*

- and Reasonable Rates and Charges Designed to Realize A Reasonable Rate of Return on the Fair Value of its Properties throughout Arizona.* Issues: Revenue Decoupling; Class Cost of Service Modeling; Revenue Distribution; Rate Design.
159. Expert Testimony. Docket No. 11-0280 and 11-0281. (2011). Before the Illinois Commerce Commission. On the Behalf of the Illinois Attorney General, the Citizens Utility Board, and the City of Chicago, Illinois. *In re: Peoples Gas Light and Coke Company and North Shore Natural Gas Company.* Issues: Revenue Decoupling and Rate Design. (Direct and Rebuttal)
 160. Expert Testimony. D.P.U. 11-01. (2011). Before the Massachusetts Department of Public Utilities. On the Behalf of the Office of the Attorney General, Office of Ratepayer Advocacy. *Petition of the Fitchburg Electric and Gas Company (Electric Division) for Approval of A General Increase in Electric Distribution Rates and Approval of a Revenue Decoupling Mechanism.* Issues: Capital Cost Rider, Revenue Decoupling.
 161. Expert Testimony. D.P.U. 11-02. (2011). Before the Massachusetts Department of Public Utilities. On the Behalf of the Office of the Attorney General, Office of Ratepayer Advocacy. *Petition of the Fitchburg Electric and Gas Company (Gas Division) for Approval of A General Increase in Electric Distribution Rates and Approval of a Revenue Decoupling Mechanism.* Issues: Pipeline Replacement Rider, Revenue Decoupling.
 162. Expert Affidavit. Docket No. EL-11-13 (2011). Before the Federal Energy Regulatory Commission. *Petition for Preliminary Ruling, Atlantic Grid Operations.* On the Behalf of the New Jersey Division of Rate Counsel. Issues: Offshore wind generation development, offshore wind transmission development, ratemaking treatment of development costs, transmission development incentives.
 163. Expert Opinion. Case No. CI06-195. (2011). Before the District Court of Jefferson County, Nebraska. On the Behalf of the City of Fairbury, Nebraska and Michael Beachler. *In re: Endicott Clay Products Co. vs. City of Fairbury, Nebraska and Michael Beachler.* Issues: rate design and ratemaking, time of use and time differentiated rate structures, empirical analysis of demand and usage trends for tariff eligibility requirements.
 164. Expert Testimony. D.P.U. 10-114. (2010). Before the Massachusetts Department of Public Utilities. On the Behalf of the Office of the Attorney General, Office of Ratepayer Advocacy. *Petition of the New England Gas Company for Approval of A General Increase in Electric Distribution Rates and Approval of a Revenue Decoupling Mechanism.* Issues: infrastructure replacement rider.
 165. Expert Testimony. D.P.U. 10-70. (2010). Before the Massachusetts Department of Public Utilities. *Petition of the Western Massachusetts Electric Company for Approval of A General Increase in Electric Distribution Rates and Approval of a Revenue Decoupling Mechanism.* On the Behalf of the Office of the Attorney General, Office of Ratepayer Advocacy. Issues: Revenue decoupling; infrastructure replacement rider; performance-based regulation; inflation adjustment mechanisms; and rate design.
 166. Expert Testimony. G.U.D. Nos. 998 & 9992. (2010). Before the Texas Railroad Commission. *In the Matter of the Rate Case Petition of Texas Gas Services, Inc.* On the Behalf of the City of El Paso, Texas. Issues: Cost of service, revenue distribution, rate design, and weather normalization.

167. Expert Testimony. B.P.U Docket No. GR10030225. (2010). Before the New Jersey Board of Public Utilities. In the Matter of the Petition of New Jersey Natural Gas Company for Approval of Regional Greenhouse Gas Initiative Programs and Associated Cost Recovery Mechanisms Pursuant to N.J.S.A. 48:3-98.1. On the Behalf of the Department of the Public Advocate, Division of Rate Counsel. Issues: solar energy proposals, solar securitization issues, solar energy policy issues.
168. Expert Testimony. D.P.U. 10-55. (2010). Before the Massachusetts Department of Public Utilities. Investigation Into the Propriety of Proposed Tariff Changes for Boston Gas Company, Essex Gas Company, and Colonial Gas Company. (d./b./a. National Grid). On the Behalf of the Office of the Attorney General, Office of Ratepayer Advocacy. Issues: Revenue decoupling; pipeline-replacement rider; performance-based regulation; partial productivity factor estimates, inflation adjustment mechanisms; and rate design.
169. Expert Testimony. Cause No.43839. (2010). Before the Indiana Utility Regulatory Commission. In the Matter of Southern Indiana Gas and Electric Company d/b/a/ Vectren Energy Delivery of Indiana, Inc. (Vectren South-Electric). On the behalf of the Indiana Office of Utility Consumer Counselor (OUCC). Issues: revenue decoupling, variable production cost riders, gains on off-system sales, transmission cost riders.
170. Congressional Testimony. Before the United States Congress. (2010). U.S. House of Representatives, Committee on Natural Resources. Hearing on the Consolidated Land, Energy, and Aquatic Resources Act. June 30, 2010.
171. Expert Testimony. Before the City Counsel of El Paso, Texas; Public Utility Regulatory Board. (2010). On the Behalf of the City of El Paso. In Re: Rate Application of Texas Gas Services, Inc. Issues: class cost of service study (minimum system and zero intercept analysis), rate design proposals, weather normalization adjustment, and its cost of service adjustment clause, conservation adjustment clause proposals, and other cost tracker policy issues.
172. Expert Testimony. Docket 09-00183. (2010). Before the Tennessee Regulatory Authority. In the Matter of the Petition of Chattanooga Gas Company for a General Rate Increase, Implementation of the EnergySMART Conservation Programs, and Implementation of a Revenue Decoupling Mechanism. On the Behalf of Tennessee Attorney General, Consumer Advocate & Protection Division. Issues: revenue decoupling and energy efficiency program review and cost effectiveness analysis.
173. Expert Testimony and Exhibits. Docket No. 10-240. (2010). Before the Louisiana Office of Conservation. In Re: Cadeville Gas Storage, LLC. On the Behalf of Cardinal Gas Storage, LLC. Issues: alternative uses and relative economic benefits of conversion of depleted hydrocarbon reservoir for natural gas storage purposes.
174. Expert Testimony. Docket No. 09505-EI. (2010). Before the Florida Public Service Commission. In Re: Review of Replacement Fuel Costs Associated with the February 26, 2008 outage on Florida Power & Light's Electrical System. On the Behalf of the Florida Office of Public Counsel for the Citizens of the State of Florida. Issues: Replacement costs for power outage, regulatory policy/generation development incentives, renewable and energy efficiency incentives.
175. Expert Report, Recommendation, and Proposed Rule: Docket Number R-29380-A, ex

- parte, (2009). Before the Louisiana Public Service Commission. In re: Environmental Adjustment Clause and Environmental Certification for Electric Power Generation Resources. On the behalf of the Louisiana Public Service Commission Staff. Report and Recommendation. Issues: environmental regulation and cost recovery; allowance allocations and air credit markets cost recovery treatment; other generation planning issues.
176. Expert Testimony. Docket 09-00104. (2009). Before the Tennessee Regulatory Authority. In the Matter of the Petition of Piedmont Natural Gas Company, Inc. to Implement a Margin Decoupling Tracker Rider and Related Energy Efficiency and Conservation Programs. On the Behalf of the Tennessee Attorney General, Consumer Advocate & Protection Division. Issues: revenue decoupling, energy efficiency program review, weather normalization.
 177. Expert Testimony. Docket Number NG-0060. (2009). Before the Nebraska Public Service Commission. In the Matter of SourceGas Distribution, LLC Approval for a General Rate Increase. On the Behalf of the Nebraska Public Advocate. October 29, 2009. Issues: revenue decoupling, inflation trackers, infrastructure replacement riders, customer adjustment rider, weather normalization rider, weather normalization adjustments, estimation of normal weather for ratemaking purposes.
 178. Expert Report and Deposition. Before the 23rd Judicial District Court, Parish of Assumption, State of Louisiana. On the Behalf of Dow Hydrocarbons and Resources, Inc. September 1, 2009. (Deposition, November 23-24, 2009). Issues: replacement and repair costs for underground salt cavern hydrocarbon storage.
 179. Expert Testimony. D.P.U. 09-39. Before the Massachusetts Department of Public Utilities. (2009). Investigation Into the Propriety of Proposed Tariff Changes for Massachusetts Electric Company and Nantucket Electric Company (d./b./a. National Grid). On the Behalf of the Office of the Attorney General, Office of Ratepayer Advocacy. Issues: Revenue decoupling; infrastructure rider; performance-based regulation; inflation adjustment mechanisms; revenue distribution; and rate design.
 180. Expert Testimony. D.P.U. 09-30. Before the Massachusetts Department of Public Utilities. (2009). In the Matter of Bay State Gas Company Request for Increase in Rates. On the Behalf of the Office of the Attorney General, Office of Ratepayer Advocacy. Issues: Revenue decoupling; target infrastructure replacement program rider; revenue distribution; and rate design.
 181. Expert Testimony. Docket EO09030249. (2009). Before the New Jersey Board of Public Utilities. In the Matter of the Petition of Public Service Electric and Gas Company for Approval of a Solar Loan II Program and An Associated Cost Recovery Mechanism. On the Behalf of the Department of the Public Advocate, Division of Rate Counsel. Issues: solar energy market design, renewable portfolio standards, solar energy, and renewable financing/loan program design.
 182. Expert Testimony. Docket EO0920097. (2009). Before the New Jersey Board of Public Utilities. In the Matter of the Verified Petition of Rockland Electric Company for Approval of an SREC-Based Financing Program and An Associated Cost Recovery Mechanism. On the Behalf of the Department of the Public Advocate, Division of Rate Counsel. Issues: solar energy market design; renewable energy portfolio standards; solar energy.

183. Expert Rebuttal Report. Civil Action No.: 2:07-CV-2165. (2009). Before the U.S. District Court, Western Division of Louisiana, Lake Charles Division. Prepared on the Behalf of the Transcontinental Pipeline Corporation. Issues: expropriation and industrial use of property.
184. Expert Testimony. Docket EO06100744. (2008). Before the New Jersey Board of Public Utilities. In the Matter of the Renewable Portfolio Standard – Amendments to the Minimum filing Requirements for Energy Efficiency, Renewable Energy, and Conservation Programs and For Electric Distribution Company Submittals of Filings in connection with Solar Financing (Atlantic City Electric Company). On the Behalf of the Department of the Public Advocate, Division of Rate Counsel. Issues: Solar energy market design; renewable energy portfolio standards; solar energy. (Rebuttal and Surrebuttal)
185. Expert Testimony. Docket EO08090840. (2008). Before the New Jersey Board of Public Utilities. In the Matter of the Renewable Portfolio Standard – Amendments to the Minimum filing Requirements for Energy Efficiency, Renewable Energy, and Conservation Programs and For Electric Distribution Company Submittals of Filings in connection with Solar Financing (Jersey Central Power & Light Company). On the Behalf of the Department of the Public Advocate, Division of Rate Counsel. Issues: Solar energy market design; renewable energy portfolio standards; solar energy. (Rebuttal and Surrebuttal)
186. Expert Testimony. Docket UG-080546. (2008). Before the Washington Utilities and Transportation Commission. On the Behalf of the Washington Attorney General (Public Counsel Section). Issues: Rate Design, Cost of Service, Revenue Decoupling, Weather Normalization.
187. Congressional Testimony. (2008). Senate Republican Conference: Panel on Offshore Drilling in the Restricted Areas of the Outer Continental Shelf. September 18, 2008.
188. Expert Testimony. Appeal Number 2007-125 and 2007-299. (2008). Before the Louisiana Tax Commission. On the Behalf of Jefferson Island Storage and Hub, LLC (AGL Resources). Issues: Valuation Methodologies, Underground Storage Valuation, LTC Guidelines and Policies, Public Purpose of Natural Gas Storage. July 15, 2008 and August 20, 2008.
189. Expert Testimony. Docket Number 07-057-13. (2008). Before the Utah Public Service Commission. In the Matter of the Application of Questar Gas Company to File a General Rate Case. On the Behalf of the Utah Committee of Consumer Services. Issues: Cost of Service, Rate Design. August 18, 2008 (Direct, Rebuttal, Surrebuttal).
190. Rulemaking Testimony. (2008). Before the Louisiana Tax Commission. Examination of Replacement Cost Tables, Depreciation and Useful Lives for Oil and Gas Properties. Chapter 9 (Oil and Gas Properties) Section. August 5, 2008.
191. Legislative Testimony. (2008). Examination of Proposal to Change Offshore Natural Gas Severance Taxes (HB 326 and Amendments). Joint Finance and Appropriations Committee of the Alabama Legislature. March 13, 2008.
192. Public Testimony. (2007). Issues in Environmental Regulation. Testimony before Gubernatorial Transition Committee on Environmental Regulation (Governor-Elect Bobby Jindal). December 17, 2007.

193. Public Testimony. (2007). Trends and Issues in Alternative Energy: Opportunities for Louisiana. Testimony before Gubernatorial Transition Committee on Natural Resources (Governor-Elect Bobby Jindal). December 13, 2007.
194. Expert Report and Recommendation: Docket Number S-30336 (2007). Before the Louisiana Public Service Commission. In re: Entergy Gulf States, Inc. Application for Approval of Advanced Metering Pilot Program. Issues: pilot program for demand response programs and advanced metering systems.
195. Expert Testimony. Docket EO07040278 (2007). Before the New Jersey Board of Public Utilities. In the Matter of the Petition of Public Service Electric & Gas Company for Approval of a Solar Energy Program and An Associated Cost Recovery Mechanism. On the Behalf of the Department of the Public Advocate, Division of Rate Counsel. Issues: renewable energy market development, solar energy development, SREC markets, rate impact analysis, cost recovery issues.
196. Expert Testimony: Docket Number 05-057-T01 (2007). Before the Utah Public Service Commission. In the Matter of: Joint Application of Questar Gas Company, the Division of Public Utilities, and Utah Clean Energy for Approval of the Conservation Enabling Tariff Adjustment Options and Accounting Orders. On the behalf of the Utah Committee of Consumer Services. Issues: Revenue Decoupling, Demand-side Management; Energy Efficiency policies. (Direct, Rebuttal, and Surrebuttal Testimony)
197. Expert Testimony (Non-sworn rulemaking testimony) Docket Number RR-2008, (2007). Before the Louisiana Tax Commission. In re: Commission Consideration of Amendment and/or Adoption of Tax Commission Real/Personal Property Rules and Regulations. Issues: Louisiana oil and natural gas production trends, appropriate cost measures for wells and subsurface property, economic lives and production decline curve trends.
198. Expert Report, Recommendation, and Proposed Rule: Docket Number R-29213 & 29213-A, ex parte, (2007). Before the Louisiana Public Service Commission. In re: Investigation to determine if it is appropriate for LPSC jurisdictional electric utilities to provide and install time-based meters and communication devices for each of their customers which enable such customers to participate in time-based pricing rate schedules and other demand response programs. On the behalf of the Louisiana Public Service Commission Staff. Report and Recommendation. Issues: demand response programs, advanced meter systems, cost recovery issues, energy efficiency issues, regulatory issues.
199. Expert Report, Recommendation, and Proposed Rule: Docket Number R-29712, ex parte, (2007) Before the Louisiana Public Service Commission. In re: Investigation into the ratemaking and generation planning implications of nuclear construction in Louisiana. On the behalf of the Louisiana Public Service Commission Staff. Report and Recommendation. Issues: nuclear cost power plant development, generation planning issues, and cost recovery issues.
200. Expert Testimony, Case Number U-14893, (2006). Before the Michigan Public Service Commission. In the Matter of SEMCO Energy Gas Company for Authority to Redesign and Increase Its Rates for the Sale and Transportation of Natural Gas In its MPSC Division and for Other Relief. On the behalf of the Michigan Attorney General. Issues: Rate Design, revenue decoupling, financial analysis, demand-side management program and

- energy efficiency policy. (Direct and Rebuttal Testimony).
201. Expert Report, Recommendation, and Proposed Rule: Docket Number R-29380, ex parte, (2006). Before the Louisiana Public Service Commission. In re: An Investigation Into the Ratemaking and Generation Planning Implications of the U.S. EPA Clean Air Interstate Rule. On the behalf of the Louisiana Public Service Commission Staff. Report and Recommendation. Issues: environmental regulation and cost recovery; allowance allocations and air credit markets; ratepayer impacts of new environmental regulations.
 202. Expert Affidavit Before the Louisiana Tax Commission (2006). On behalf of ANR Pipeline, Tennessee Gas Transmission and Southern Natural Gas Company. Issues: Competitive nature of interstate and intrastate transportation services.
 203. Expert Affidavit Before the 19th Judicial District Court (2006). Suit Number 491, 453 Section 26. On behalf of Transcontinental Pipeline Corporation, et.al. Issues: Competitive nature of interstate and intrastate transportation services.
 204. Expert Testimony: Docket Number 05-057-T01 (2006). Before the Utah Public Service Commission. In the Matter of: Joint Application of Questar Gas Company, the Division of Public Utilities, and Utah Clean Energy for Approval of the Conservation Enabling Tariff Adjustment Options and Accounting Orders. On the behalf of the Utah Committee of Consumer Services. Issues: Revenue Decoupling, Demand-side Management; Energy Efficiency policies. (Rebuttal and Supplemental Rebuttal Testimony)
 205. Legislative Testimony (2006). Senate Committee on Natural Resources. Senate Bill 655 Regarding Remediation of Oil and Gas Sites, Legacy Lawsuits, and the Deterioration of State Drilling.
 206. Expert Report: Rulemaking Docket (2005). Before the New Jersey Bureau of Public Utilities. In re: Proposed Rulemaking Changes Associated with New Jersey's Renewable Portfolio Standard. Expert Report. The Economic Impacts of New Jersey's Proposed Renewable Portfolio Standard. On behalf of the New Jersey Office of Ratepayer Advocate. Issues: Renewable Portfolio Standards, rate impacts, economic impacts, technology cost forecasts.
 207. Expert Testimony: Docket Number 2005-191-E. (2005). Before the South Carolina Public Service Commission. On behalf of NewSouth Energy LLC. In re: General Investigation Examining the Development of RFP Rules for Electric Utilities. Issues: Competitive bidding; merchant development. (Direct and Rebuttal Testimony).
 208. Expert Testimony: Docket No. 05-UA-323. (2005). Before the Mississippi Public Service Commission. On the behalf of Calpine Corporation. In re: Entergy Mississippi's Proposed Acquisition of the Attala Generation Facility. Issues: Asset acquisition; merchant power development; competitive bidding.
 209. Expert Testimony: Docket Number 050045-EI and 050188-EI. (2005). Before the Florida Public Service Commission. On the behalf of the Citizens of the State of Florida. In re: Petition for Rate Increase by Florida Power & Light Company. Issues: Load forecasting; O&M forecasting and benchmarking; incentive returns/regulation.
 210. Expert Testimony (non-sworn, rulemaking): Comments on Decreased Drilling Activities in Louisiana and the Role of Incentives. (2005). Louisiana Mineral Board Monthly Docket

and Lease Sale. July 13, 2005

211. Legislative Testimony (2005). Background and Impact of LNG Facilities on Louisiana. Joint Meeting of Senate and House Natural Resources Committee. Louisiana Legislature. May 19, 2005.
212. Public Testimony. Docket No. U-21453. (2005). Technical Conference before the Louisiana Public Service Commission on an Investigation for a Limited Industrial Retail Choice Plan.
213. Expert Testimony: Docket No. 2003-K-1876. (2005). On Behalf of Columbia Gas Transmission. Expert Testimony on the Competitive Market Structure for Gas Transportation Service in Ohio. Before the Ohio Board of Tax Appeals.
214. Expert Report and Testimony: Docket No. 99-4490-J, *Lafayette City-Parish Consolidated Government, et. al. v. Entergy Gulf States Utilities, Inc. et. al.* (2005, 2006). On behalf of the City of Lafayette, Louisiana and the Lafayette Utilities Services. Expert Rebuttal Report of the Harborfront Consulting Group Valuation Analysis of the LUS Expropriation. Filed before 15th Judicial District Court, Lafayette, Louisiana.
215. Expert Testimony: ANR Pipeline Company v. Louisiana Tax Commission (2005), Number 468,417 Section 22, 19th Judicial District Court, Parish of East Baton Rouge, State of Louisiana Consolidated with Docket Numbers: 480,159; 489,776; 480,160; 480,161; 480,162; 480,163; 480,373; 489,776; 489,777; 489,778; 489,779; 489,780; 489,803; 491,530; 491,744; 491,745; 491,746; 491,912; 503,466; 503,468; 503,469; 503,470; 515,414; 515,415; and 515,416. In re: Market structure issues and competitive implications of tax differentials and valuation methods in natural gas transportation markets for interstate and intrastate pipelines.
216. Expert Report and Recommendation: Docket No. U-27159. (2004). On Behalf of the Louisiana Public Service Commission Staff. Expert Report on Overcharges Assessed by Network Operator Services, Inc. Before the Louisiana Public Service Commission.
217. Expert Testimony: Docket Number 2004-178-E. (2004). Before the South Carolina Public Service Commission. On behalf of Columbia Energy LLC. In re: Rate Increase Request of South Carolina Electric and Gas. (Direct and Surrebuttal Testimony)
218. Expert Testimony: Docket Number 040001-EI. (2004). Before the Florida Public Service Commission. On behalf of Power Manufacturing Systems LLC, Thomas K. Churbuck, and the Florida Industrial Power Users Group. In re: Fuel Adjustment Proceedings; Request for Approval of New Purchase Power Agreements. Company examined: Florida Power & Light Company.
219. Expert Affidavit: Docket Number 27363. (2004). Before the Public Utilities Commission of Texas. Joint Affidavit on Behalf of the Cities of Texas and the Staff of the Public Utilities Commission of Texas Regarding Certified Issues. In Re: Application of Valor Telecommunications, L.P. For Authority to Establish Extended Local Calling Service (ELCS) Surcharges For Recovery of ELCS Surcharge.
220. Expert Report and Testimony. Docket 1997-4665-PV, 1998-4206-PV, 1999-7380-PV, 2000-5958-PV, 2001-6039-PV, 2002-64680-PV, 2003-6231-PV. (2003) Before the Kansas Board of Tax Appeals. (2003). In the Matter of the Appeals of CIG Field Services

- Company from orders of the Division of Property Valuation. On the Behalf of CIG Field Services. Issues: the competitive nature of natural gas gathering in Kansas.
221. Expert Report and Testimony: Docket Number U-22407. Before the Louisiana Public Service Commission (2002). On the Behalf of the Louisiana Public Service Commission Staff. Company examined: Louisiana Gas Services, Inc. Issues: Purchased Gas Acquisition audit, fuel procurement and planning practices.
 222. Expert Testimony: Docket Number 000824-EI. Before the Florida Public Service Commission. (2002). On the Behalf of the Citizens of the State of Florida. Company examined: Florida Power Corporation. Issues: Load Forecasts and Billing Determinants for the Projected Test Year.
 223. Public Testimony: Louisiana Board of Commerce and Industry (2001). Testimony on the Economic Impacts of Merchant Power Generation.
 224. Expert Testimony: Docket Number 24468. (2001). On the Behalf of the Texas Office of Public Utility Counsel. Public Utility Commission of Texas Staff's Petition to Determine Readiness for Retail Competition in the Portion of Texas Within the Southwest Power Pool. Company examined: AEP-SWEPCO.
 225. Expert Report. (2001) On Behalf of David Liou and Pacific Richland Products, Inc. to Review Cogeneration Issues Associated with Dupont Dow Elastomers, L.L.C. (DDE) and the Dow Chemical Company (Dow).
 226. Expert Testimony: Docket Number 01-1049, Docket Number 01-3001. (2001) On behalf the Nevada Office of Attorney General, Bureau of Consumer Protection. Petition of Central Telephone Company-Nevada D/b/a Sprint of Nevada and Sprint Communications L.P. for Review and Approval of Proposed Revised Performance Measures and Review and Approval of Performance Measurement Incentive Plans. Before the Public Utilities Commission of Nevada.
 227. Expert Affidavit: Multiple Dockets (2001). Before the Louisiana Tax Commission. On the Behalf of Louisiana Interstate Pipeline Companies. Testimony on the Competitive Nature of Natural Gas Transportation Services in Louisiana.
 228. Expert Affidavit before the Federal District Court, Middle District of Louisiana (2001). Issues: Competitive Nature of the Natural Gas Transportation Market in Louisiana. On behalf of a Consortium of Interstate Natural Gas Transportation Companies.
 229. Public Testimony: Louisiana Board of Commerce and Industry (2001). Testimony on the Economic and Ratepayer Benefits of Merchant Power Generation and Issues Associated with Tax Incentives on Merchant Power Generation and Transmission.
 230. Expert Testimony: Docket Number 01-1048 (2001). Before the Public Utilities Commission of Nevada. On the Behalf of the Nevada Office of the Attorney General, Bureau of Consumer Protection. Company analyzed: Nevada Bell Telephone Company. Issues: Statistical Issues Associated with Performance Incentive Plans.
 231. Expert Testimony: Docket 22351 (2001). Before the Public Utility Commission of Texas. On the Behalf of the City of Amarillo. Company analyzed: Southwestern Public Service Company. Issues: Unbundled cost of service, affiliate transactions, load forecasting.

232. Expert Testimony: Docket 991779-EI (2000). Before the Florida Public Service Commission. On the Behalf of the Citizens of the State of Florida. Companies analyzed: Florida Power & Light Company; Florida Power Corporation; Tampa Electric Company; and Gulf Power Company. Issues: Competitive Nature of Wholesale Markets, Regional Power Markets, and Regulatory Treatment of Incentive Returns on Gains from Economic Energy Sales.
233. Expert Testimony: Docket 990001-EI (1999). Before the Florida Public Service Commission. On the Behalf of the Citizens of the State of Florida. Companies analyzed: Florida Power & Light Company; Florida Power Corporation; Tampa Electric Company; and Gulf Power Company. Issues: Regulatory Treatment of Incentive Returns on Gains from Economic Energy Sales.
234. Expert Testimony: Docket 950495-WS (1996). Before the Florida Public Service Commission. On the Behalf of the Citizens of the State of Florida. Company analyzed: Southern States Utilities, Inc. Issues: Revenue Repression Adjustment, Residential and Commercial Demand for Water Service.
235. Legislative Testimony. Louisiana House of Representatives, Special Subcommittee on Utility Deregulation. (1997). On Behalf of the Louisiana Public Service Commission Staff. Issue: Electric Restructuring.
236. Expert Testimony: Docket 940448-EG -- 940551-EG (1994). Before the Florida Public Service Commission. On the Behalf of the Legal Environmental Assistance Foundation. Companies analyzed: Florida Power & Light Company; Florida Power Corporation; Tampa Electric Company; and Gulf Power Company. Issues: Comparison of Forecasted Cost-Effective Conservation Potentials for Florida.
237. Expert Testimony: Docket 920260-TL, (1993). Before the Florida Public Service Commission. On the Behalf of the Florida Public Service Commission Staff. Company analyzed: BellSouth Communications, Inc. Issues: Telephone Demand Forecasts and Empirical Estimates of the Price Elasticity of Demand for Telecommunication Services.
238. Expert Testimony: Docket 920188-TL, (1992). Before the Florida Public Service Commission. On the Behalf of the Florida Public Service Commission Staff. Company analyzed: GTE-Florida. Issues: Telephone Demand Forecasts and Empirical Estimates of the Price Elasticity of Demand for Telecommunication Services.

REFEREE AND EDITORIAL APPOINTMENTS

Contributor, 2014-2018, *Wall Street Journal*, *Journal Reports*, *Energy*

Editorial Board Member, 2015-2017, *Utilities Policy*

Referee, 2014-Current, *Utilities Policy*

Referee, 2010-Current, *Economics of Energy & Environmental Policy*

Referee, 1995-Current, *Energy Journal*

Contributing Editor, 2000-2005, *Oil, Gas and Energy Quarterly*

Referee, 2005, *Energy Policy*

Referee, 2004, *Southern Economic Journal*

Referee, 2002, *Resource & Energy Economics*

Committee Member, IAEE/USAEE Student Paper Scholarship Award Committee, 2003

PROPOSAL TECHNICAL REVIEWER

California Energy Commission, Public Interest Energy Research (PIER) Program (1999).

PROFESSIONAL ASSOCIATIONS

American Economic Association, American Statistical Association, Southern Economic Association, Western Economic Association, International Association of Energy Economists ("IAEE"), United States Association of Energy Economics ("USAEE"), the National Association for Business Economics ("NABE"), and the Energy Bar Association (National and Louisiana Chapter; current Board member of LA chapter).

HONORS AND AWARDS

Baton Rouge Business Report, Selected as one of the "Capital Region 500" (2023).

National Association of Regulatory Utility Commissioners (NARUC). Best Paper Award for papers published in the *Journal of Applied Regulation* (2004).

Baton Rouge Business Report, Selected as "Top 40 Under 40" (2003).

Omicron Delta Epsilon (1992-Current).

Interstate Oil and Gas Compact Commission (IOGCC) "Best Practice" Award for Research on the Economic Impact of Oil and Gas Activities on State Leases for the Louisiana Department of Natural Resources (2003).

Distinguished Research Award, Academy of Legal, Ethical and Regulatory Issues, Allied Academics (2002).

Florida Public Service Commission, Staff Excellence Award for Assistance in the Analysis of Local Exchange Competition Legislation (1995).

TEACHING EXPERIENCE

Energy and the Environment (Survey Course)

Principles of Microeconomic Theory

Principles of Macroeconomic Theory

Lecturer, Environmental Management and Permitting. Lecture in Natural Gas Industry, LNG and Markets.

Lecturer, Electric Power Industry Environmental Issues, Field Course on Energy and the Environment. (Dept. of Environmental Studies).

Lecturer, Electric Power Industry Trends, Principles Course in Power Engineering (Dept. of

Electric Engineering).

Lecturer, LSU Honors College, Senior Course on "Society and the Coast."

Continuing Education. Electric Power Industry Restructuring for Energy Professionals.

"The Gulf Coast Energy Situation: Outlook for Production and Consumption." Educational Course and Lecture Prepared for the Foundation for American Communications and the Society for Professional Journalists, New Orleans, LA, December 2, 2004

"The Impact of Hurricane Katrina on Louisiana's Energy Infrastructure and National Energy Markets." Educational Course and Lecture Prepared for the Foundation for American Communications and the Society for Professional Journalists, Houston, TX, September 13, 2005.

"Forecasting for Regulators: Current Issues and Trends in the Use of Forecasts, Statistical, and Empirical Analyses in Energy Regulation." Instructional Course for State Regulatory Commission Staff. Institute of Public Utilities, Kellogg Center, Michigan State University. July 8-9, 2010.

"Regulatory and Ratemaking Issues with Cost and Revenue Trackers." Michigan State University, Institute of Public Utilities. Advanced Regulatory Studies Program. September 29, 2010.

"Demand Modeling and Forecasting for Regulators." Michigan State University, Institute of Public Utilities. Advanced Regulatory Studies Program. September 30, 2010.

"Demand Modeling and Forecasting for Regulators." Michigan State University, Institute of Public Utilities, Forecasting Workshop, Charleston, SC. March 7-9, 2011.

"Regulatory and Cost Recovery Approaches for Smart Grid Applications." Michigan State University, Institute of Public Utilities, Smart Grid Workshop for Regulators. Charleston, SC. March 7-11, 2011.

"Regulatory and Ratemaking Issues Associated with Cost and Expense Adjustment Mechanisms." Michigan State University, Institute of Public Utilities, Advanced Regulatory Studies Program. Lansing, Michigan. September 28, 2011.

"Utility Incentives, Decoupling, and Renewable Energy Programs." Michigan State University, Institute of Public Utilities, Advanced Regulatory Studies Program. Lansing, Michigan. September 29, 2011.

"Regulatory and Cost Recovery Approaches for Smart Grid Applications." Michigan State University, Institute of Public Utilities, Smart Grid Workshop for Regulators. Charleston, SC. March 6-8, 2012.

"Traditional and Incentive Ratemaking Workshop." New Mexico Public Utilities Commission Staff. Santa Fe, NM October 18, 2012.

"Traditional and Incentive Ratemaking Workshop." New Jersey Board of Public Utilities Staff. Newark, NJ. March 1, 2013.

"Natural Gas Issues and Recent Market Trends." Michigan State University Institute of Public Utilities, GridSchool Regulatory Studies Program, East Lansing, Mich., March 29, 2017.

“Gas Supply Planning and Procurement: Regulatory Overview and issues.” Michigan State University Institute of Public Utilities, Basic Regulatory Studies Program, East Lansing, Mich., Aug 17, 2017.

“Natural Gas Supply Issues and Challenges.” Michigan State University Institute of Public Utilities, Basic Regulatory Studies Program, East Lansing, Mich., Aug 17, 2017.

“Incentives, Risk and Changes in the Nature of Regulation.” Michigan State University Institute of Public Utilities, Basic Regulatory Studies Program, East Lansing, Mich., Aug 18, 2017.

“Traditional and Alternative Forms of Regulation: Background and Overview.” Michigan State University Institute of Public Utilities, Advanced Regulatory Studies Program, East Lansing, Mich., October 2, 2017.

“Traditional and Alternative Forms of Regulation: Utility and policy motivations for risk and change.” Michigan State University Institute of Public Utilities, Advanced Regulatory Studies Program, East Lansing, Mich., October 2, 2017.

“Traditional and Alternative Forms of Regulation: Incentives and Formula Based Methods.” Michigan State University Institute of Public Utilities, Advanced Regulatory Studies Program, East Lansing, Mich., October 2, 2017.

THESIS/DISSERTATIONS COMMITTEES

Active:

- 1 Thesis Committee Memberships (Environmental Studies)
- 2 Ph.D. Dissertation Committee (Economics)

Completed:

- 8 Thesis Committee Memberships (Environmental Studies, Geography)
- 4 Doctoral Committee Memberships (Information Systems & Decision Sciences, Agricultural and Resource Economics, Economics, Education and Workforce Development).
- 2 Doctoral Examination Committee Membership (Information Systems & Decision Sciences, Education and Workforce Development)
- 1 Senior Honors Thesis (Journalism, Loyola University)

LSU SERVICE AND COMMITTEE MEMBERSHIPS

Committee Member, Energy Education Curriculum Committee. E.J. Ourso College of Business. LSU (2016-Current).

Chairman, LSU Energy Initiative/LSU Energy Council (2014-Current).

Co-Director & Steering Committee Member, LSU Coastal Marine Institute (2009-2014).

CES Promotion Committee, Division of Radiation Safety (2006).

Search Committee Chair (2006), Research Associate 4 Position.

Search Committee Member (2005), Research Associate 4 Position.

Search Committee Member (2005), CES Communications Manager.

LSU Graduate Research Faculty, Associate Member (1997-2004); Full Member (2004-2010); Affiliate Member with Full Directional Rights (2011-2014); Full Member (2014-current).

LSU Faculty Senate (2003-2006).

Conference Coordinator. (2005-Current) Center for Energy Studies Conference on Alternative Energy.

LSU CES/SCE Public Art Selection Committee (2003-2005).

Conference Coordinator. Center for Energy Studies Annual Energy Conference/Summit. (2003-Current).

Conference Coordinator. Center for Energy Studies Seminar Series on Electric Utility Restructuring and Wholesale Competition. (1996-2003).

Co-Chairman, Review Committee, Louisiana Port Construction and Development Priority Program Rules and Regulations, On Behalf of the LSU Ports and Waterways Institute. (1997).

LSU Main Campus Cogeneration/Turbine Project, (1999-2000).

LSU InterCollege Environmental Cooperative. (1999-2001).

LSU Faculty Senate Committee on Public Relations (1997-1999).

LSU Faculty Senate Committee on Student Retention and Recruitment (1999-2003).

PROFESSIONAL SERVICE

Board Member (2018). Energy Bar Association, Louisiana Chapter.

Program Committee Member (2017). Gulf Coast Power Association Conference. New Orleans.

Program Committee Member (2016). Gulf Coast Power Association Conference. New Orleans.

Program Committee Member (2015). Gulf Coast Power Association Workshop/Special Briefing. "Gulf Coast Disaster Readiness: A Past, Present and Future Look at Power and Industry Readiness in MISO South."

Advisor (2008). National Association of Regulatory Utility Commissioners. Study Committee on the Impact of Executive Drilling Moratoria on Federal Lands.

Steering Committee Member, Louisiana Representative (2008-Current). Southeast Agriculture & Forestry Energy Resources Alliance. Southern Policies Growth Board.

Advisor (2007-Current). National Association of State Utility Consumer Advocates ("NASUCA"), Natural Gas Committee.

Program Committee Chairman (2007-2008). U.S. Association of Energy Economics ("USAEE") Annual Conference, New Orleans, LA

Finance Committee Chairman (2007-2008). USAEE Annual Conference, New Orleans, LA

Committee Member (2006), International Association for Energy Economics Nominating Committee.

Founding President (2005-2007) Louisiana Chapter, USAEE.

Secretary (2001) Houston Chapter, USAEE.

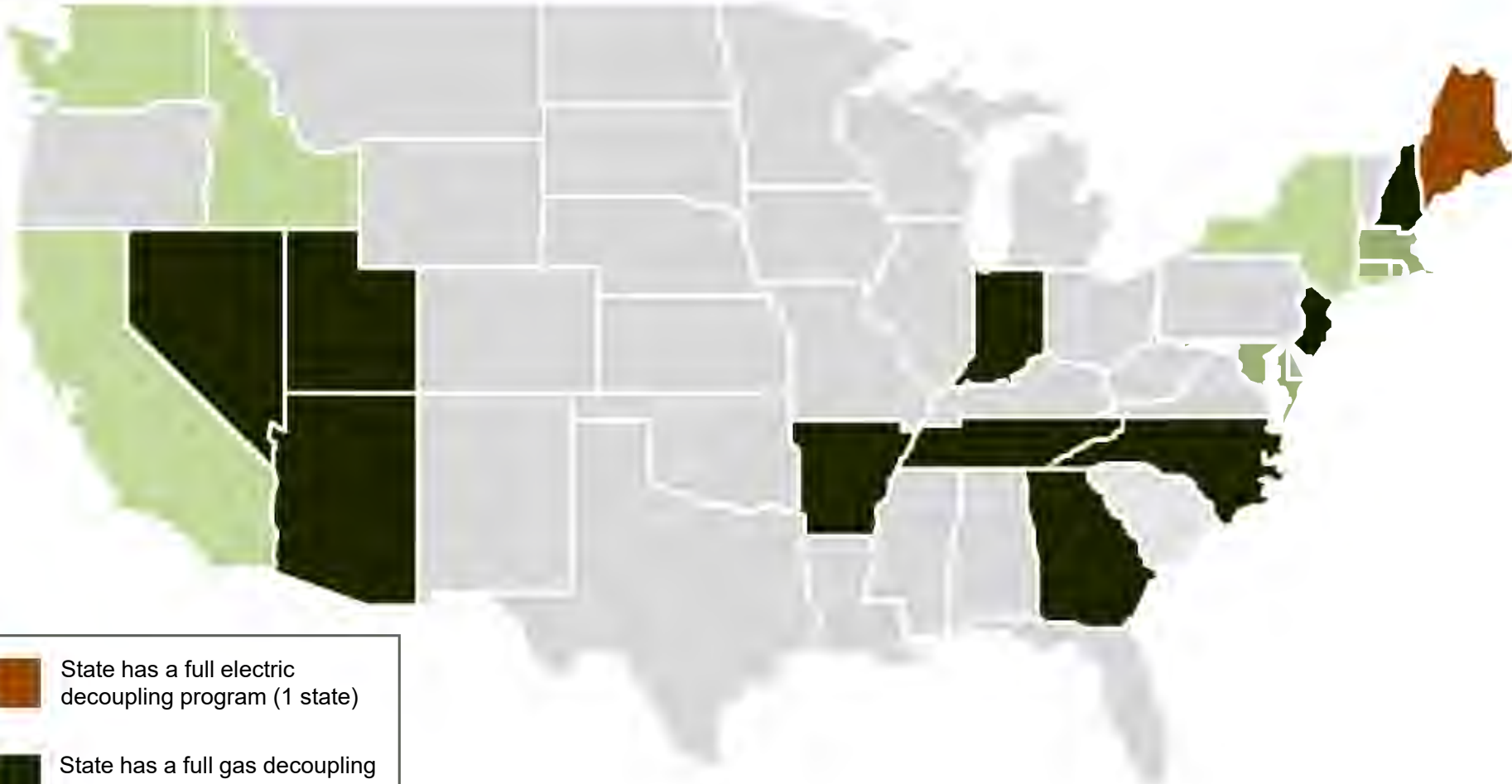
Advisor, Louisiana LNG Buyers/Developers Summit, Office of the Governor/Louisiana Department of Economic Development/Louisiana Department of Natural Resources, and Greater New Orleans, Inc. (2004).




Table of Exhibits

Title	Exhibit
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Consumption Loss and New Customer Growth	Exhibit DED-4
Consumer Protection Mechanisms in Approved Decoupling Programs	Exhibit DED-5

Map of States with Decoupling Programs

Witness: Dismukes
Cause No. 45967
Exhibit DED-1

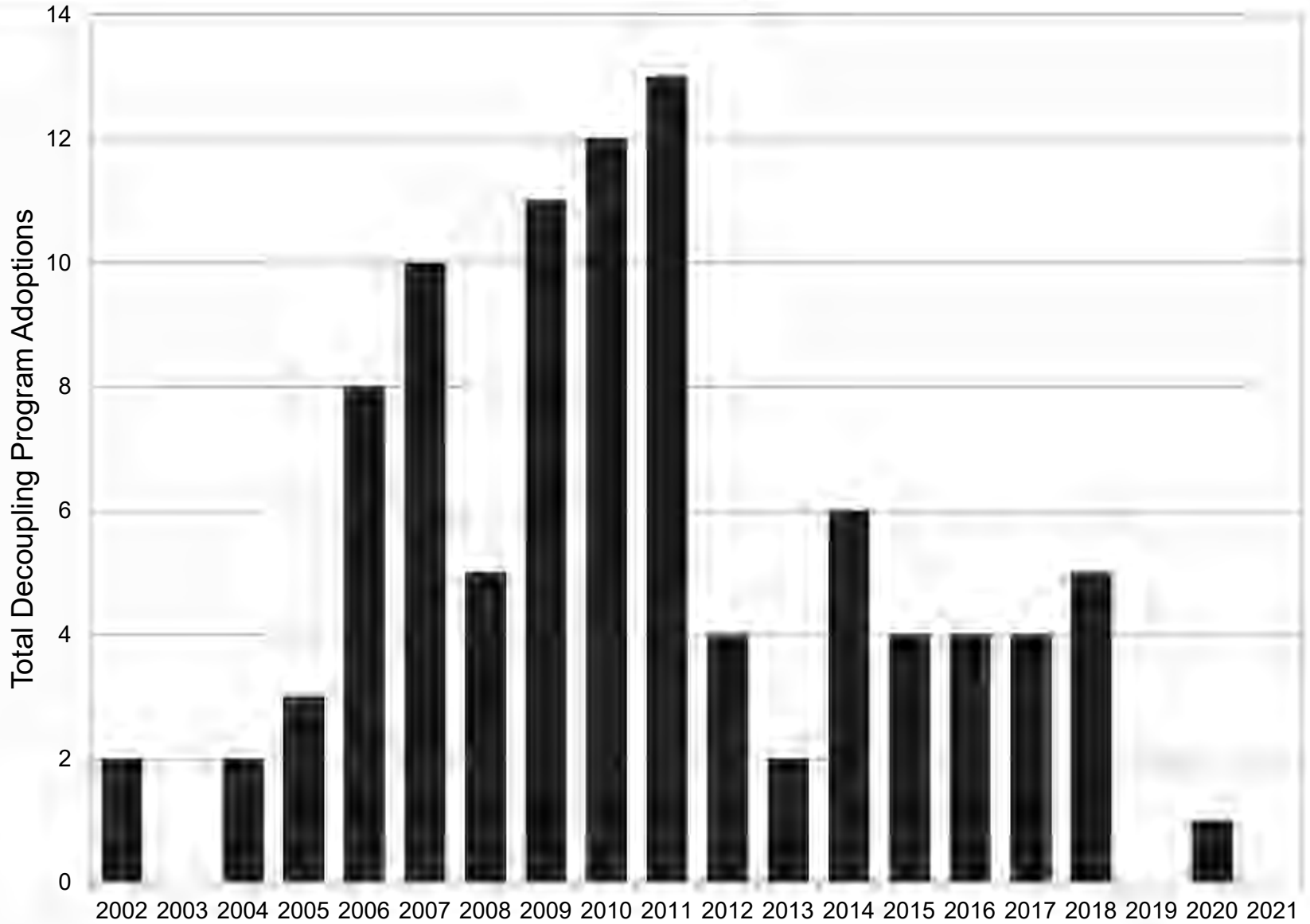


-  State has a full electric decoupling program (1 state)
-  State has a full gas decoupling program (10 states)
-  State has both a full electric and full gas decoupling program (8 states)

Source: S&P Global.

Decoupling Program Adoption by Year

Witness: Dismukes
Cause No. 45967
Exhibit DED-2



Source: Commission Orders.

Historic NIPSCO ROE (2010-2022)

Witness: Dismukes
Cause No. 45967
Exhibit DED-3

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
	----- (\$000) -----												
Total Proprietary Capital	\$ 1,462,465	\$ 1,528,179	\$ 1,563,996	\$ 1,647,387	\$ 1,797,326	\$ 1,998,722	\$ 2,159,806	\$ 2,326,435	\$ 2,495,693	\$ 2,918,488	\$ 3,210,409	\$ 3,536,052	\$ 3,863,257
Total Long-term Debt	\$ 1,051,399	\$ 1,041,349	\$ 1,022,083	\$ 1,171,222	\$ 1,286,066	\$ 1,433,500	\$ 1,574,500	\$ 1,654,500	\$ 1,774,500	\$ 2,253,384	\$ 2,323,902	\$ 2,498,919	\$ 2,923,936
Total Capitalization	\$ 2,513,864	\$ 2,569,528	\$ 2,586,079	\$ 2,818,609	\$ 3,083,392	\$ 3,432,222	\$ 3,734,306	\$ 3,980,935	\$ 4,270,193	\$ 5,171,872	\$ 5,534,311	\$ 6,034,971	\$ 6,787,193
Net Income	\$ 105,585	\$ 134,045	\$ 158,439	\$ 201,416	\$ 193,736	\$ 168,008	\$ 178,304	\$ 226,000	\$ 309,203	\$ 327,522	\$ 291,927	\$ 325,704	\$ 327,233
Equity Percentage of Total Capitalization	58.2%	59.5%	60.5%	58.4%	58.3%	58.2%	57.8%	58.4%	58.4%	56.4%	58.0%	58.6%	56.9%
Net Income Available to Equity	\$ 61,425	\$ 79,721	\$ 95,820	\$ 117,721	\$ 112,930	\$ 97,838	\$ 103,125	\$ 132,073	\$ 180,712	\$ 184,821	\$ 169,344	\$ 190,839	\$ 186,260
Return on Equity	4.20%	5.22%	6.13%	7.15%	6.28%	4.90%	4.77%	5.68%	7.24%	6.33%	5.27%	5.40%	4.82%

Consumption Loss and New Customer Growth: Residential Change in Use per Customer

	MCF Sold	Number of Customers	MCF Per Customer	Change in Use		Percent Change	
				Use from Existing Customers	Use from New Customers	Number of Customers	MCF Per Customer
2011	50,249,959	604,507	83.1				
2012	45,521,801	638,804	71.3	(7,172,196)	2,444,038	5.7%	-14.3%
2013	57,893,969	648,701	89.2	11,488,900	883,268	1.5%	25.2%
2014	62,416,887	660,004	94.6	3,453,988	1,068,930	1.7%	6.0%
2015	54,535,450	670,293	81.4	(8,718,556)	837,119	1.6%	-14.0%
2016	52,349,649	676,976	77.3	(2,702,588)	516,787	1.0%	-5.0%
2017	52,577,077	686,109	76.6	(472,441)	699,869	1.3%	-0.9%
2018	59,841,299	696,798	85.9	6,346,246	917,976	1.6%	12.1%
2019	60,556,895	702,823	86.2	196,468	519,128	0.9%	0.3%
2020	55,552,559	710,706	78.2	(5,620,513)	616,177	1.1%	-9.3%
2021	54,780,288	719,520	76.1	(1,443,320)	671,049	1.2%	-2.6%
2022	60,169,405	726,999	82.8	4,770,124	618,993	1.0%	8.7%

Consumption Loss and New Customer Growth: Residential Change in Revenue per Customer

	Non-Fuel Revenue	Number of Customers	Non-Fuel Revenue Per Customer	Change in Revenue		Percent Change	
				Revenue from Existing Customers	Revenue from New Customers	Number of Customers	Revenue Per Customer
2011	\$ 157,905,570	604,507	\$ 261				
2012	176,405,218	638,804	276	\$ 9,028,558	\$ 9,471,089	5.7%	5.7%
2013	176,629,496	648,701	272	(2,470,495)	2,694,773	1.5%	-1.4%
2014	128,904,242	660,004	195	(49,932,824)	2,207,569	1.7%	-28.3%
2015	243,983,101	670,293	364	111,333,718	3,745,141	1.6%	86.4%
2016	146,634,815	676,976	217	(98,795,843)	1,447,556	1.0%	-40.5%
2017	171,046,073	686,109	249	22,134,413	2,276,845	1.3%	15.1%
2018	208,362,820	696,798	299	34,120,426	3,196,321	1.6%	19.9%
2019	284,235,192	702,823	404	73,435,746	2,436,626	0.9%	35.2%
2020	275,169,915	710,706	387	(12,117,402)	3,052,126	1.1%	-4.3%
2021	206,331,393	719,520	287	(71,366,047)	2,527,525	1.2%	-25.9%
2022	\$ 212,245,210	726,999	292	3,730,344	2,183,472	1.0%	1.8%

Consumption Loss and New Customer Growth: Commercial Change in Use per Customer

Witness: Dismukes
Cause No. 45967
Exhibit DED-4
Page 3 of 4

	MCF Sold	Number of Customers	MCF Per Customer	Change in Use		Percent Change	
				Use from Existing Customers	Use from New Customers	Number of Customers	MCF Per Customer
2011	19,187,503	46,009	417.0				
2012	16,239,739	49,427	328.6	(4,070,782)	1,123,018	7.4%	-21.2%
2013	21,027,417	49,588	424.0	4,719,407	68,271	0.3%	29.1%
2014	22,832,187	50,247	454.4	1,505,321	299,449	1.3%	7.2%
2015	19,791,553	50,956	388.4	(3,316,013)	275,379	1.4%	-14.5%
2016	18,983,340	51,133	371.3	(873,925)	65,712	0.3%	-4.4%
2017	19,565,959	51,420	380.5	473,412	109,207	0.6%	2.5%
2018	21,997,804	52,057	422.6	2,162,667	269,178	1.2%	11.1%
2019	23,151,246	52,671	439.5	883,562	269,880	1.2%	4.0%
2020	20,557,398	53,509	384.2	(2,915,796)	321,948	1.6%	-12.6%
2021	21,142,652	54,163	390.4	329,964	255,290	1.2%	1.6%
2022	24,595,296	55,122	446.2	3,024,741	427,903	1.8%	14.3%

Consumption Loss and New Customer Growth: Commercial Change in Revenue per Customer

	Non-Fuel Revenue	Number of Customers	Non-Fuel Revenue Per Customer	Change in Revenue		Percent Change	
				Revenue from Existing Customers	Revenue from New Customers	Number of Customers	Non-Fuel Revenue Per Customer
2011	\$ 36,968,656	46,009	\$ 804				
2012	57,884,773	49,427	1,171	\$ 16,913,242	\$ 4,002,876	7.4%	45.8%
2013	64,289,143	49,588	1,296	6,195,639	208,731	0.3%	10.7%
2014	47,387,490	50,247	943	(17,523,150)	621,497	1.3%	-27.3%
2015	74,128,893	50,956	1,455	25,709,977	1,031,427	1.4%	54.3%
2016	42,776,060	51,133	837	(31,500,905)	148,072	0.3%	-42.5%
2017	53,545,894	51,420	1,041	10,470,969	298,866	0.6%	24.5%
2018	62,418,040	52,057	1,199	8,108,362	763,784	1.2%	15.1%
2019	79,631,075	52,671	1,512	16,284,754	928,281	1.2%	26.1%
2020	78,102,928	53,509	1,460	(2,751,311)	1,223,163	1.6%	-3.5%
2021	53,760,764	54,163	993	(24,991,307)	649,143	1.2%	-32.0%
2022	\$ 49,838,388	55,122	904	(4,789,453)	867,077	1.8%	-8.9%

Consumer Protection Mechanisms in Approved Decoupling Programs

Company	Utility Type - Gas/ Electric	Decoupling - Gas/ Electric	Date of Decision	Decision Type	Limited Recovery / Cap on Accruals	Check on Over Earnings	DSM or EE Targets	Pilot or Trial Period	Compliance Review
Arkansas Oklahoma Gas (AR)	Gas	Gas	11/20/2007	Settlement		XXX			
Black Hills Energy (AR) (former westar gas)	Gas	Gas	6/1/2007	Settlement		XXX		XXX	
CenterPoint Energy (AR)	Gas	Gas	10/25/07	Settlement		XXX			
Southwest Gas (AZ)	Gas	Gas	1/6/2012	Settlement	XXX	XXX			XXX
Pacific Gas & Electric (CA)	Electric & Gas	Electric & Gas	5/27/2004	Settlement		XXX	XXX		
San Diego Gas & Electric (CA)	Electric & Gas	Electric & Gas	3/17/2005	Settlement		XXX	XXX		
Southern California Gas (CA)	Gas	Gas	3/17/2005	Settlement		XXX	XXX		
Southern California Edison (CA)	Electric	Electric	4/22/2002	Order		XXX	XXX		
Southwest Gas (CA)	Gas	Gas	3/16/2004	Order		XXX	XXX		
PSC of Colorado (CO)	Electric	Electric	6/21/2017	Order	XXX			XXX	XXX
Connecticut Light & Power (CT)	Electric	Electric	12/17/2014	Order					
Connecticut Natural Gas (CT)	Gas	Gas	1/22/2014	Order					XXX
Southern Connecticut Gas (CT)	Gas	Gas	12/13/2017	Settlement					
United Illuminating (CT)	Electric	Electric	2/4/2009	Order	XXX		XXX		XXX
Potomac Electric Power Company (DC)	Electric	Electric	9/28/2009	Order	XXX				XXX
Atmos Energy/Liberty Utilities (GA)	Gas	Gas	12/27/2011	Settlement		XXX			XXX
HECO Companies (HI)*	Electric	Electric	8/31/2010	Order		XXX			XXX
Avista Utilities (ID)	Electric & Gas	Electric & Gas	12/18/2015	Settlement	XXX				XXX
Idaho Power (ID)	Electric	Electric	3/12/2007	Settlement	XXX		XXX	XXX	
Ameren Illinois (IL)	Electric & Gas	Gas	12/9/2015	Order					
Liberty Utilities (IL)	Electric & Gas	Gas	5/24/2017	Order					
North Shore Gas Company (IL)	Gas	Gas	7/15/2014	Order	XXX				XXX
Peoples Gas Light and Coke (IL)	Electric & Gas	Gas	7/15/2014	Order	XXX				XXX
Boonville Natural Gas Corporation	Gas	Gas	11/30/2011	Settlement			XXX	XXX	
Citizens Gas (IN)	Gas	Gas	8/29/2007	Settlement	XXX			XXX	
Citizens Gas of Westfield (IN)	Gas	Gas	3/10/2010	Order	XXX			XXX	
Community Natural Gas Company	Gas	Gas	11/30/2011	Settlement			XXX	XXX	
Fountaintown Gas (IN)	Gas	Gas	11/30/2011	Settlement	XXX		XXX	XXX	
Indiana Natural Gas (IN)	Gas	Gas	11/30/2011	Settlement	XXX		XXX	XXX	
Indiana Utilities Corporation (IN)	Gas	Gas	11/30/2011	Settlement			XXX	XXX	
Midwest Natural Gas Corporation (IN)	Gas	Gas	11/30/2011	Settlement			XXX	XXX	
South Eastern Indiana Natural Gas Company (IN)	Gas	Gas	11/30/2011	Settlement			XXX	XXX	
Switzerland County Natural Gas Company (IN)	Gas	Gas	11/30/2011	Settlement			XXX	XXX	
Vectren Southern Indiana Gas (IN)	Electric & Gas	Gas	12/1/2006	Settlement	XXX			XXX	
Vectren Indiana Gas (IN)	Electric & Gas	Gas	12/1/2006	Settlement	XXX			XXX	
Kansas City Power & Light (KS)	Electric	Electric	6/22/2017	Order					

Consumer Protection Mechanisms in Approved Decoupling Programs

Company	Utility Type - Gas/ Electric	Decoupling - Gas/ Electric	Date of Decision	Decision Type	Limited Recovery / Cap on Accruals	Check on Over Earnings	DSM or EE Targets	Pilot or Trial Period	Compliance Review
Bay State Gas (MA)	Gas	Gas	10/30/2009	Order	XXX				
Boston Gas dba National Grid (MA)	Gas	Gas	11/2/2010	Order	XXX				
Colonial Gas dba National Grid (MA)	Gas	Gas	11/2/2010	Order	XXX				
Fitchburg Gas & Electric (MA)	Electric & Gas	Electric & Gas	8/1/2011	Order	XXX				
Nantucket Electric/Massachusetts Electric dba National Grid (MA)	Electric	Electric	2/23/2018	Order	XXX	XXX			
NSTAR dba Eversource Energy (MA)	Electric & Gas	Electric & Gas	10/30/2015 & 1/5/2018	Order	XXX				
New England Gas (MA)	Gas	Gas	3/31/2011	Order	XXX				
Western Massachusetts Electric (MA)	Electric	Electric	1/11/2011	Order	XXX				
Baltimore Gas & Electric (MD)	Electric & Gas	Electric & Gas	2/27/1998 & 2013	Settlement					
Delmarva Power & Light (MD)	Electric	Electric	7/19/2007	Settlement					
PEPCO (MD)	Electric	Electric	7/19/2007	Settlement					
Washington Gas (MD)	Gas	Gas	8/11/2005	Settlement					
Central Maine Power (ME)	Electric	Electric	8/25/2014	Settlement	XXX				
Consumers Energy (MI)	Electric & Gas	Gas	4/21/2016	Settlement					
Detroit Edison (MI)	Electric	Electric	01/11/10	Order			XXX	XXX	XXX
Indiana Michigan Power (MI)	Electric	Electric	4/12/2018	Order	XXX				
Michigan Consolidated Gas (MI)	Gas	Gas	06/03/10	Order			XXX	XXX	XXX
Michigan Gas Utilities (MI)	Gas	Gas	07/01/10	Order			XXX	XXX	XXX
CenterPoint Energy (MN)	Gas	Gas	7/20/2018	Settlement	XXX		XXX	XXX	XXX
Great Plains Natural Gas (MN)	Gas	Gas	9/6/2016	Order	XXX			XXX	XXX
MERC (MN)	Gas	Gas	7/13/2012	Order	XXX			XXX	XXX
Northern States Power dba Xcel Energy (MN)	Electric & Gas	Electric	5/8/2015	Order	XXX		XXX	XXX	XXX
NorthWestern Energy (MT)	Electric & Gas	Electric	01/07/10	Order				XXX	XXX
Piedmont Natural Gas (NC)	Gas	Gas	10/24/2008	Settlement			XXX	XXX	
Public Service Co. of NC (NC)	Gas	Gas	10/24/2008	Settlement			XXX		
Liberty Utilities (EnergyNorth Natural Gas) (NH)	Gas	Gas	4/27/2018	Order					
South Jersey Gas (NJ)	Gas	Gas	10/12/06 & 1/21/10	Settlement	XXX	XXX	XXX	XXX	
New Jersey Natural Gas (NJ)	Gas	Gas	10/12/06 & 1/21/10	Settlement	XXX	XXX	XXX	XXX	
PSE&G (NJ)	Electric & Gas	Electric & Gas	9/23/2020	Order			XXX	XXX	
Nevada Power Co (NV)	Electric	Electric	9/27/2013						
Southwest Gas (NV)	Gas	Gas	11/3/2009	Order			XXX		
Consolidated Edison (NY)	Electric & Gas	Electric & Gas	9/25/07 & 3/25/08	Settlement			XXX	XXX	
National Gas Distribution (NY)	Gas	Gas	9/20/2007	Order			XXX		
Orange and Rockland (NY)	Electric & Gas	Electric & Gas	7/23/2008	Order					
Central Hudson Gas & Elec. (NY)	Electric & Gas	Electric & Gas	6/18/2010	Settlement					

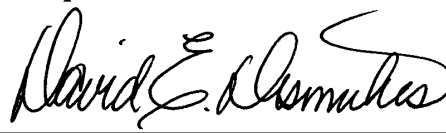
Source: Commission Orders.

Consumer Protection Mechanisms in Approved Decoupling Programs

Company	Utility Type - Gas/ Electric	Decoupling - Gas/ Electric	Date of Decision	Decision Type	Limited Recovery / Cap on Accruals	Check on Over Earnings	DSM or EE Targets	Pilot or Trial Period	Compliance Review
Coming Natural Gas (NY)	Gas	Gas	7/17/2009	Settlement					
National Grid - KEDNY & KEDLI (NY)	Gas	Gas	12/22/2009	Settlement					
NYSEG and Rochester G&E (NY)	Electric & Gas	Electric & Gas	9/21/2010	Settlement					
Niagara Mohawk (NY)	Electric & Gas	Electric & Gas	5/15/2009 & 1/24/2011	Settlement					
St. Lawrence Gas (NY)	Gas	Gas	12/18/2009	Order					
American Electric Power (OH)	Electric	Electric	12/14/2011	Settlement	XXX			XXX	
Dayton Power & Light (OH)	Electric	Electric	9/26/2018	Order					
Duke Energy (OH)	Electric	Electric	5/30/2012	Order	XXX			XXX	
Vectren (OH)	Gas	Gas	09/13/06	Settlement			XXX	XXX	XXX
Avista (OR)	Gas	Gas	2/29/2016	Order	XXX			XXX	XXX
Cascade Natural Gas (OR)	Gas	Gas	4/19/2006	Settlement		XXX	XXX	XXX	XXX
Northwest Natural (OR)	Gas	Gas	9/12/2002	Settlement	XXX		XXX	XXX	
Portland General Electric (OR)	Electric	Electric	1/22/2009	Order	XXX		XXX	XXX	XXX
National Grid (RI)	Electric & Gas	Electric & Gas	5/25/2012	Order					
Chattanooga Natural Gas (TN)	Gas	Gas	11/8/2010	Order	XXX			XXX	XXX
Questar Gas (UT)	Gas	Gas	10/5/06 & 11/5/07	Order			XXX	XXX	XXX
Virginia Natural Gas (VA)	Gas	Gas	12/23/2008	Settlement			XXX	XXX	XXX
Columbia Gas of Virginia (VA)	Gas	Gas	12/4/2009	Settlement			XXX	XXX	XXX
Washington Gas Light (VA)	Gas	Gas	3/26/2010	Order			XXX		
Green Mountain Power (VT)	Electric	Electric	12/22/2006	Order					
Avista (WA)	Electric & Gas	Electric & Gas	11/25/2014	Settlement					
Cascade Natural Gas (WA)	Gas	Gas	1/12/2007	Settlement		XXX	XXX	XXX	XXX
Pacific Power (WA)	Electric	Electric	9/1/2016	Order	XXX	XXX	XXX		XXX
Puget Sound Energy (WA)	Electric & Gas	Electric & Gas	6/25/2013	Order	XXX				
Wisconsin Public Service (WI)	Electric & Gas	Electric & Gas	12/30/08	Settlement	XXX		XXX	XXX	XXX
Questar Gas (WY)	Gas	Gas	6/17/2009	Order			XXX	XXX	XXX

AFFIRMATION

I affirm, under the penalties for perjury, that the foregoing representations are true.



Dr. David E. Dismukes
OUCC Consultant
Indiana Office of
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Cause No. 45967
Northern Indiana Public Service Co.

01/31/2024

Date

CERTIFICATE OF SERVICE

This is to certify that a copy of the foregoing has been served upon the following counsel of record in the captioned proceeding by electronic service on January 31, 2024.

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