

**BEFORE
THE PUBLIC UTILITIES COMMISSION OF OHIO**

In the Matter of the Duke Energy Ohio, Inc.)
for Approval of an Alternative Form of) Case No. 19-791-GA-ALT
Regulation)

**DIRECT TESTIMONY
OF
DANIEL J. DUANN, Ph.D.
FOR CONSUMER PROTECTION FROM THE STIPULATION**

**On Behalf of
The Office of the Ohio Consumers' Counsel**
*65 East State Street, 7th Floor
Columbus, Ohio 43215-4213*

January 13, 2021

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ATTACHMENTS:

Attachment DJD-01

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1 **I. INTRODUCTION**

2

3 ***Q1. PLEASE STATE YOUR NAME, BUSINESS ADDRESS AND POSITION.***

4 ***A1.*** My name is Daniel J. Duann. My business address is 65 East State Street, Columbus, OH
5 43215. I am the Assistant Director of Analytical Services with the Office of the Ohio
6 Consumers' Counsel ("OCC").

7

8 ***Q2. PLEASE DESCRIBE YOUR PROFESSIONAL EXPERIENCE AND***
9 ***EDUCATIONAL BACKGROUND.***

10 ***A2.*** I joined OCC in January 2008 as a Senior Regulatory Analyst. I was promoted to the
11 position of Principal Regulatory Analyst in November 2011 and to my current position in
12 June 2018. My primary responsibility is to assist OCC by participating in proceedings
13 before the Public Utilities Commission of Ohio ("PUCO") and the Federal Energy
14 Regulatory Commission ("FERC"). These proceedings include, among others, rate cases,
15 cost of capital, standard service offer, and infrastructure replacement riders.

16

17 Prior to joining OCC, I was an independent consultant. Before that, I was a Senior
18 Institute Economist at the National Regulatory Research Institute ("NRRI") at The Ohio
19 State University. NRRI has been a policy research center funded by the National
20 Association of Regulatory Utility Commissioners and state public utilities commissions
21 since 1976. NRRI is currently located in Washington, DC and no longer a part of The
22 Ohio State University. My work at NRRI involved research, publishing, and public
23 services in areas of public utility regulation and energy policy. Before NRRI, I held

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1 various positions with the Forecasting Section of the Ohio Division of Energy (the
2 Forecasting Section was later transferred to the PUCO), the Center of Health Policy
3 Research at the American Medical Association, and the Policy Analysis and Research
4 Division of the Illinois Commerce Commission.

5
6 I received my Ph.D. degree in Public Policy Analysis and M.S. degree in Energy
7 Management and Policy from the University of Pennsylvania. I also have an M.A. degree
8 in Economics from the University of Kansas. I completed my undergraduate study in
9 Business Administration at the National Taiwan University, Taiwan, Republic of China. I
10 have been a Certified Rate of Return Analyst by the Society of Utility and Regulatory
11 Financial Analysts since 2011.

12
13 ***Q3. HAVE YOU PREVIOUSLY SUBMITTED TESTIMONY OR TESTIFIED BEFORE***
14 ***THE PUBLIC UTILITIES COMMISSION OF OHIO AND OTHER GOVERNMENT***
15 ***AGENCIES AND LEGISLATURES?***

16 ***A3.*** Yes. I have submitted expert testimony or testified on behalf of the OCC before the
17 PUCO in numerous proceedings. A list of these proceedings is included in Attachment
18 DJD-1. I have also testified before the Illinois Commerce Commission regarding a
19 proposed divestiture of three nuclear power plants by Commonwealth Edison Company
20 in 1987. Additionally, I testified in 1989, as an independent expert from NRRI, before the
21 California State Legislature (the Senate Committee on Energy and Public Utilities)

1 regarding a legislation banning “sweetheart deals” between electric utilities and their
2 non-regulated affiliates in (SB 769).

3
4 ***Q4. HAVE YOU PREVIOUSLY PUBLISHED OR PRESENTED IN ACADEMIC***
5 ***JOURNALS, TRADE PUBLICATIONS, AND PROFESSIONAL CONFERENCES?***

6 ***A4.*** Yes. I have published in academic journals and trade publications, and also presented in
7 many conferences on topics related to utility regulation, energy policy, and emerging
8 technology. A selected listing of these publications and presentations is included as
9 Attachment DJD-2.

10
11 **II. PURPOSE AND RECOMMENDATION**

12
13 ***Q5. WHAT IS THE PURPOSE OF YOUR TESTIMONY?***

14 ***A5.*** My testimony serves two purposes. First, it supports the recommendation of OCC for the
15 PUCO to reject the Stipulation and Recommendation (“Settlement”) filed by Duke
16 Energy Ohio (“Duke” or “Utility”) on November 16, 2020.¹ Second, my testimony
17 supports the OCC objection (filed on June 22, 2020)² regarding the pre-tax rate of return
18 that Duke proposes to charge customers for its Capital Expenditure Program (“CEP”) is
19 excessive.³ Because the Settlement does not reduce the pre-tax rate of return included in

¹ See *In the Matter of The Duke Energy Ohio, Inc. for Approval of an Alternative Form of Regulation*, Case No. 19-0791-GA-ALT, Stipulation and Recommendation (November 16, 2020). (“Settlement”).

² See Objections by the Office of the Ohio Consumers’ Counsel at 9-10 (June 22, 2020). (“OCC Objections”).

³ See PUCO Case No. 19-0791-GA-ALT, Application (May 3, 2019). (“CEP Application”).

1 the CEP Application, the discussion of these OCC Objections would further explain and
2 support my recommendation regarding the Settlement.

3
4 ***Q6. TO PROTECT CONSUMERS, WHAT IS YOUR RECOMMENDATION***
5 ***REGARDING THE SETTLEMENT?***

6 ***A6.*** In order to protect Duke's nearly 400,000 residential gas utility customers, I recommend
7 that the PUCO reject the Settlement. It does not meet the three-prong test used by the
8 PUCO in evaluating a settlement. Specifically, the pre-tax rate of return of 9.16%
9 proposed in the Settlement (and in Duke's Application)⁴ is excessive and unreasonable.
10 The adoption of this pre-tax rate of return, in comparison to OCC's recommended pre-tax
11 rate of return of 8.29%, would result in customers paying unjust and unreasonable rates,
12 and cost Duke's customers at least \$7.9 million over the next four years.⁵

13
14 Also, the monthly residential rate cap included in the Settlement does not offer sufficient
15 protection of customers from sudden and drastic rate increases. For example, the
16 proposed residential rate cap would allow Duke to almost triple its CEP residential rate in
17 one year (from \$3.69 to \$9.31 per month).⁶ The magnitude of this sudden increase in a
18 fixed monthly CEP charge is unreasonable and harmful to Duke's customers.

⁴ See Application, Exhibit J, Schedule 1 at 1. A pre-tax rate of return includes both the weighted cost of long-term debt and the grossed-up (for income tax) weighted cost of equity. A pre-tax rate of return is always higher than the after-tax rate of return.

⁵ I will explain further about the calculation of the \$7.9 million additional cost of the Settlement in the following sections of my testimony.

⁶ See Table 2.

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1 **Q7. TO PROTECT CONSUMERS, WHAT IS YOUR RECOMMENDATION**
2 **REGARDING THE PRE-TAX RATE OF RETURN FOR DUKE'S CEP PROGRAM?**

3 **A7.** If the CEP program is approved (which OCC does not support), I recommend that the
4 PUCO adopt a pre-tax rate of return no higher than 8.29 %. A comparison of the pre-tax
5 rate of return included in the Settlement and recommended by OCC is shown in Table 1.⁷

6 **Table 1**
7 **Comparison of Pre-tax Rate of Returns**
8

		Settlement (based on 2012 gas rate case)	OCC (based on current market condition and updated capital structure)
Cost of Debt	(1)	5.32%	4.03%
Debt Ratio	(2)	0.4670	0.4603
Weighted Cost of Debt	(3) = (1) * (2)	2.48%	1.86%
Cost of Equity (ROE)	(4)	9.84%	9.36%
Equity Ratio	(5)	0.5330	0.5397
Tax Gross-up Factor	(6)	1.2727273	1.2727273
Weighted Cost of Equity	(7) = (4) * (5) * (6)	6.68%	6.43%
Pre-tax Rate of Return	(8) = (3) + (7)	9.16%	8.29%

9
10

⁷ I will discuss my recommended pre-tax rate of 8.29% and its underlying components in detail later in my testimony.

1 **III. THE PUCO SHOULD REJECT THE SETTLEMENT TO PROTECT DUKE'S**
2 **CUSTOMERS**

3
4 ***Q8. WHAT IS THE THREE-PRONG TEST THAT THE PUCO COMMONLY USES IN***
5 ***EVALUATING A SETTLEMENT?***

6 **A8.** I understand that the PUCO typically analyzes a settlement under a three-prong test.

7 Specifically, the PUCO will consider:

8 (1) Is the settlement a product of serious bargaining among capable,
9 knowledgeable parties?

10 (2) Does the settlement, as a package, benefit customers and the public
11 interest?

12 (3) Does the settlement package violate any important regulatory
13 principle or practice?

14

15 I also understand that when considering the first prong, the PUCO has found that

16 a diversity of interests among signatory parties is a relevant factor.⁸ If the PUCO

17 determines that a proposed settlement does not meet each of the three criteria

18 outlined above, the settlement would be rejected.⁹ Additionally, in deciding to

⁸ See, e.g., *In re Columbia Gas of Ohio, Inc.*, Case No. 17-2202-GA-ALT, Opinion & Order ¶ 45 (November 28, 2018) (settlement met first prong, in part, because it was “the product of serious bargaining among capable, knowledgeable parties representing interests ranging from consumers and community groups to commercial and industrial sectors, not to mention Staff and Columbia”).

⁹ More specifically, the PUCO “may take the stipulation into consideration, but must determine what is just and reasonable from the evidence presented at the hearing” in deciding to adopt or reject a settlement. See *OCC v. PUCO*, 64 Ohio St.3d 123, 125 (1992).

1 adopt or reject a settlement, the PUCO “may take the stipulation into
2 consideration, but must determine what is just and reasonable from the evidence
3 presented at the hearing.”¹⁰

4
5 ***Q9. IS THIS SETTLEMENT A PRODUCT OF SERIOUS BARGAINING AMONG***
6 ***CAPABLE, KNOWLEDGEABLE PARTIES WITH DIVERSE INTERESTS?***

7 ***A9.*** No. Contrary to the claims by Duke and the PUCO Staff, the Settlement does not
8 represent an accommodation of the diverse interests and is not entitled to a careful
9 consideration by the PUCO.¹¹ The mere acts of phone calls, meetings, or negotiation
10 among parties in crafting a settlement do not meet the requirement that the Settlement be
11 a product of serious bargaining among capable, knowledgeable parties with diverse
12 interests.

13
14 Both the process of bargaining as well as the end product (the Settlement) of the
15 bargaining process should be considered in applying this prong. A settlement reached by
16 parties must reflect a genuine compromise among parties with diverse or competing
17 interests. If parties with similar interests sign a settlement reflecting very little
18 compromise, then the parties did not really “bargain” for anything.

¹⁰ *Id.*

¹¹ *See* Settlement at 2.

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1 Regarding this Settlement between Duke and the PUCO Staff (“Staff”) (the only two
2 parties who signed the Settlement), as evidenced by the close alignment of Duke’s and
3 the Staff’s positions, this Settlement clearly is not a product of serious bargaining among
4 competing or opposing interests.

5
6 First, the Staff and Duke made no attempt to address the excessively high rate of return
7 that was based on the financial market conditions eight years ago when the last gas rate
8 case was decided. The Staff did not propose any modification to the pre-tax rate of return
9 of 9.16% requested by Duke.¹² Second, the first-year Rider CEP charge included in the
10 Settlement, in particular the fixed monthly residential rate of \$3.69,¹³ is higher than that
11 recommended in the Audit Report (\$3.68 per month)¹⁴ and only slightly lower than that
12 proposed in Duke’s Application (\$3.72 per month).¹⁵ One has to question why the Staff is
13 negotiating backward by agreeing to a higher rate than proposed in the Audit Report. For
14 example, Staff abandoned the Audit Report’s recommendation that Duke should remove
15 earnings- and stock-based performance incentives from the CEP and agreed to increase
16 its recommendation for the initial residential CEP Rider rate from \$3.68 per month to
17 \$3.69 per month, which favors Duke.

¹² See Staff Report (May 22, 2020).

¹³ See Settlement at 3.

¹⁴ See Audit Report (May 11, 2020), Exhibit 5-1.

¹⁵ See Application, Exhibit J, Schedule 1.

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1 Third, the monthly residential caps for Rider CEP proposed in the Settlement,¹⁶ as shown
2 in Table 2, are significantly higher than those proposed in the Staff Report.¹⁷ It seems
3 Staff gives up its position regarding the monthly residential caps and largely accepts the
4 position of Duke. There appears to have been no serious bargaining in terms of a
5 meaningful give-and-take between Duke and Staff that would protect customers from
6 sudden and drastic CEP rate increases. Staff mostly gives and Duke mostly takes.
7 Specifically, Staff agreed to increase the cap on increases to the CEP Rider rate for 2019
8 investments from \$1.00 in the Staff Report to Duke's requested \$2.92 – a 192% increase
9 that favors Duke at customers' expense. Similarly, for 2020 investments, Staff again
10 deserted its \$1.00 cap on CEP increases in favor of a \$2.70 cap – a 170% increase that
11 again favors Duke.

Table 2
Duke's Monthly CEP Residential Rate Cap

	Monthly Residential Rate Cap Per Staff Report	Monthly Residential Rate Cap Per Settlement	For CEP Investments Made Before	Expected Effective Date
Year 1	\$3.68	\$3.69	December 31, 2018	2021
Year 2	\$4.68	\$9.31	December 31, 2020	2022
Year 3	\$5.68	\$10.31	December 31,2021	2023
Year 4	\$6.68	\$11.31	December 31,2022	2024

15
16 All these facts demonstrate there was no serious bargaining or diverse interests
17 (especially representing consumers' interests) between the signing parties of the

¹⁶ See Settlement at 4-5.

¹⁷ See Staff Report at 8-9.

1 Settlement. As a result, the Settlement is not a product of serious bargaining, and does not
2 pass the first prong.

3
4 ***Q10. DOES THE SETTLEMENT BENEFIT CUSTOMERS AND THE PUBLIC***
5 ***INTEREST?***

6 ***A10.*** No. The Settlement benefits neither customers nor the public interest. By including an
7 excessively high pre-tax rate of return of 9.16%, Duke's customers will be harmed
8 substantially if the Settlement is approved by the PUCO. I calculated that a 9.16% pre-tax
9 rate of return (vs. the 8.29% pre-tax rate of return I recommend) would increase the CEP
10 charges (or revenue requirements) by approximately \$7.9 million over the next four
11 years.¹⁸ This \$7.9 million harm to Duke's customers is derived solely from the adoption
12 the Settlement's pre-tax rate of return of 9.16%. It does not represent all the additional
13 costs associated with the Settlement. Another OCC witness, Kerry J. Adkins, will discuss
14 other additional costs to customers associated with the Settlement.

15
16 In addition to an unreasonable pre-tax rate of return, the monthly residential rate caps in
17 the Settlement¹⁹ will not benefit customers or the public interests. This so-called
18 "monthly residential cap" as presented in the Settlement is just a tool allowing Duke to
19 drastically accelerate its CEP collection and to impose an unfair burden on those

¹⁸ See Tables 3 and 4. The estimated additional costs from the 9.16% pre-tax rate of return are \$843,517 for the first year and \$7,063,492 for three years after that for a total additional cost of \$7,907,009.

¹⁹ See Settlement at 4-5.

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1 customers, including those who may be least able to afford to pay for gas utility service
2 during this challenging economic time.

3
4 The CEP riders approved or proposed by other Ohio gas utilities (such as Columbia Gas
5 of Ohio or Dominion Energy Ohio) do not allow the residential monthly cap to increase
6 by such a large amount (\$5.62, from \$3.69 to \$9.31 per month) within a twelve-month
7 period.²⁰ This drastic increase in the fixed monthly residential charge, totally separated
8 from gas usage, is unreasonable and unfair. The use of the CEP Rider is already
9 accelerating the return on and return of capital investments to Duke that should be done
10 through a base rate case. The proposed monthly residential caps under the Settlement
11 would hasten this accelerated revenue collection from customers.

12
13 ***Q11. PLEASE EXPLAIN YOUR CALCULATION OF THE \$7.9 MILLION HARM TO***
14 ***CUSTOMERS OVER THE NEXT FOUR YEARS IF THE 9.16% PRE-TAX RATE***
15 ***OF RETURN WERE ADOPTED.***

16 ***AI1.*** My calculation is based on the same revenue requirement methodology proposed in the
17 Application and the Audit Report²¹ to calculate the annual CEP revenue requirement and
18 rates. For the CEP revenue requirement of the first year, I use the same Total Operating
19 Expenses, revenue requirement allocation among customer classes, and the number of

²⁰ See, for example, in the Dominion CEP Case (PUCO Case No. 19-468), the Stipulation proposed a monthly residential rate cap of \$3.86, \$5.51, \$6.31, and \$6.96 for the first four years. In the Columbia CEP Case (PUCO Case No. 17-2202), the PUCO approved a monthly residential rate cap of \$3.51, \$4.56, \$5.61, and \$6.66 for the first four years after the approval.

²¹ See Audit Report, Exhibit 5-1.

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1 residential customer monthly bills agreed in the Settlement and the Audit Report.
2 However, I accept the adjustment (a reduction of \$918,153) to the Net Rate Base
3 associated with the incentive and stock-based compensation recommended in the Audit
4 Report.²² The Settlement rejects this adjustment by the Auditor and will increase the Net
5 Rate Base by the same amount.²³

6
7 The calculation of the first-year CEP revenue and the monthly fixed residential rate is
8 shown in Table 3. The difference in the revenue requirement between the Settlement and
9 OCC's recommendations is \$919,632. Out of this amount, \$843,517 is attributed to the
10 higher pre-tax rate of return²⁴ and \$76,115 is the revenue requirements associated with
11 the increase in Net Rate Base from incentive-based compensations.²⁵

**Table 3
Additional Cost of Using the 9.16% Pre-Tax Rate of Return in First Year of Rider CEP**

	Per Settlement Using 9.16% ROR (1)	Per Settlement Using 8.29% ROR (2)	Difference (3) = (1) – (2)	Using 8.29% ROR and a Lower Net rate Base (4)	Difference (5) = (1) – (4)
Net Rate Base	\$96,956,013	\$96,956,013		\$96,037,860	\$918,153
Pre-tax Rate of Return	9.16%	8.29%		8.29%	
Annualized Return on Rate Base	\$8,881,171	\$8,037,653	\$843,517	\$7,961,539	\$919,632
Total Operating Expenses	\$15,809,760	\$15,809,760		\$15,809,760	\$0
Annual Revenue Requirement	\$24,690,931	\$23,847,413	\$843,517	\$23,771,299	\$919,632
Rider CEP Rates					
GSS/ECTA Residential Rates	\$3.69	\$3.57		\$3.56	

²² See Audit Report at 9-10. Another OCC witness, Kerry J. Adkins will explain the reasons why this proposed reduction by the Auditor is reasonable and should be adopted.

²³ See Settlement at 3.

²⁴ \$843,517 = \$24,606,828 - \$23,847,413.

²⁵ \$76,115 = \$23,847,413 - \$23,771,299.

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1 For the difference in the revenue requirements for the second to the fourth years under
2 different pre-tax rate of returns, it is more complicated because the Net Plant additions
3 and retirements after 2019 are not known at this time. Therefore, I needed to project the
4 Net Rate Base applicable in calculating the annual CEP revenue requirements for the
5 second to the fourth years.

6
7 Specifically, I assume: (1) the residential monthly rate caps in the Settlement as I
8 described above will become effective; (2) the number of annual residential bills is
9 4,836,307;²⁶ (3) the revenue requirement allocation for residential customers is 72.35%;²⁷
10 and (4) the percentage of Total Operating Expenses is 64.03% of annual revenue
11 requirement as calculated based on the revenue requirement of the first year.²⁸ In
12 adopting these assumptions, I calculate an additional cost of approximately \$7 million
13 (\$7,063,492)²⁹ to Duke's customers over the three additional years after the first year of
14 the CEP Rider if the 9.16% pre-tax rate of return were adopted.³⁰ This calculation is
15 shown in Table 4.

²⁶ This is the number of residential customer bill shown in Audit Report, Exhibit 5-1.

²⁷ This is the same revenue requirement allocated to residential customers (63.34%) shown in the Application and the Audit Report, Exhibit 5-1.

²⁸ $64.03\% = \$15,809,760 / \$24,690,931$. This is the percentage calculated from the revenue requirement of the first year of Rider CEP as proposed in the Settlement.

²⁹ $\$7,063,492 = \$2,126,127$ (year 2) + $\$2,354,497$ (year 3) + $\$2,582,868$ (year 4).

³⁰ Even though these assumptions may not match exactly what the Duke proposed in the Settlement regarding the revenue requirement and rates after the first year, the estimated additional costs are sufficiently close and reasonable.

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**Table 4
Cost of Using the 9.16% Pre-Tax Rate of Return for Year 2 to Year 4**

(1)			Year 2	Year 3	Year 4
(2)	Rate Cap		\$9.31	\$10.31	\$11.31
(3)	Number of Customer Bill		4,836,307	4,836,307	4,836,307
(4)	Residential Revenues	(2) * (3)	\$45,025,018	\$49,862,365	\$54,698,632
(5)	Total Revenues	(4) / 0.7235	\$62,233,612	\$68,918,210	\$75,602,809
(6)	Total Operating Expenses	(5) * 0.6403	\$39,848,182	\$44,128,330	\$48,408,478
(7)	Annualized Return on Rate Base at 9.19%	(5) – (6)	\$22,385,430	\$24,789,880	\$27,194,330
(8)	Projected Net Rate Base	(7) / 0.0916	\$244,382,426	\$270,631,881	\$296,881,335
(9)	Annualized Return on Rate Base at 8.29%	(8) * 0.0829	\$20,259,303	\$22,435,383	\$24,611,463
(10)	Difference in Annualized Return on Rate Base in using different ROR	(7) – (9)	\$2,126,127	\$2,354,497	\$2,582,868

Q12. DOES THE SETTLEMENT VIOLATE ANY IMPORTANT REGULATORY PRINCIPLES?

A12. Yes. The Settlement violates important regulatory principles that have guided the regulation of public utility regulation in the United States for over 100 years. First, the use of an outdated and exceedingly high rate of return will unreasonably increase the revenue requirement for Rider CEP and lead to rates that are unjust and unreasonable (and too high) for customers. This is a violation of the fundamental regulatory principle that all utility rates must be just and reasonable.³¹ This fundamental regulatory principle has been codified in Ohio law since 1953. Specifically, the Settlement violates Ohio law that requires:

³¹ This is also referred as cost-based regulation. In other words, the rates of utility services should be based on the prudently incurred costs of providing these utility services which includes a reasonable and fair rate of return on the capital invested. *See*, for example, James C. Bonbright, *Principles of Public Utility Rates*, Columbia University Press, New York (1961) at 240-241. *See also* R.C. 4905.22 (requiring all rates to be just and reasonable).

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1 Every public utility shall furnish necessary and adequate service and
2 facilities, and every public utility shall furnish and provide with respect to
3 its business such instrumentalities and facilities, as are adequate and in all
4 respects just and reasonable. All charges made or demanded for any
5 service rendered, or to be rendered, shall be just, reasonable, and not more
6 than the charges allowed by law or by order of the public utilities
7 commission, and no unjust or unreasonable charge shall be made or
8 demanded for, or in connection with, any service, or in excess of that
9 allowed by law or by order of the commission.³²

10
11 Second, the continuous use of those rate of return components (costs of debt and equity)
12 set in the 2012 gas rate case, as proposed in the Settlement, violates the regulatory
13 principle that the authorized rate of return of a regulated utility should be based on
14 current market conditions and for providing investors of the utility the opportunity to earn
15 a fair return comparable to other currently available investments. The principle of setting
16 a reasonable rate of return based on current market condition is of particular importance
17 given that the costs of long-term debt and common equity have declined significantly
18 during the eight-year period from 2012 to 2020. This fundamental regulatory principle
19 was established in the landmark *Bluefield* Decision in 1923.³³

³² See R.C. 4905.22. This requirement has been effective since October 1, 1953.

³³ See *Bluefield Water Works v. Public Service Comm'n*, 262 U.S. 679 (1923).

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1 In that case, the U.S Supreme Court ruled that:

2 A public utility is entitled to such rates as will permit it to earn a return on
3 the value of the property which it employs for the convenience of the
4 public equal to that generally being made at the same time and in the same
5 general part of the country on investments in other business undertakings
6 which are attended by corresponding risks and uncertainties; but it has no
7 constitutional right to profits such as are realized or anticipated in highly
8 profitable enterprises or speculative ventures.

9
10 This is exactly the situation here where Duke and the Staff are trying to deny Duke's
11 customers any benefits from a drastically lower cost of capital prevailing now by sticking
12 to an excessive (relative to current market conditions) rate of return decided eight years
13 ago. The PUCO should not allow this to happen.

14
15 ***Q13. DOES THE SETTLEMENT VIOLATE STATE POLICY TO THE DETRIMENT OF***
16 ***CONSUMERS?***

17 ***A13.*** Yes. The Settlement directly contradicts several Ohio policies regarding gas services that
18 are delineated in Revised Code 4929.02.³⁴ The Settlement violates the state gas policies
19 in at least two areas.

³⁴ See R.C. 4929.02.

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1 First, the Settlement will not “[p]romote the availability to consumers of adequate,
2 reliable, and reasonably priced natural gas services and goods”³⁵ because it will impose
3 unreasonable costs, such as the \$7.9 million additional costs from the use of a
4 unreasonably high pre-tax rate of return of 9.16%, on customers, especially for residential
5 customers.

6
7 Second, the Settlement will not “[f]acilitate the state's effectiveness in the global
8 economy.”³⁶ The Settlement forces Duke’s monopoly customers to provide millions in
9 subsidies to Duke through an unjust and unreasonable CEP charge. The Settlement, if
10 approved, will adversely affect the livelihood of many Ohioans and the Ohio economy.
11 Residential customers, small business owners, and manufacturing plants will be required
12 to pay higher monthly gas bills. This money could be spent on other daily expenses,
13 investing in new machines, or hiring new employees, but instead must be diverted to
14 Duke. The dramatic and unjustified additional cost of gas service being imposed on
15 Duke’s customers, as a result of the Settlement, will not promote economic development
16 in Duke’s service territory. Thus, this Settlement will not advance Ohio’s
17 competitiveness and effectiveness in the new global economy.

³⁵ See R.C. 4928.02 (A) (1).

³⁶ See R.C. 4929.02 (A) (10).

1 **III. THE PRE-TAX RATE OF RETURN OF 9.16 PERCENT PROPOSED IN THE**
2 **SETTLEMENT IS EXCESSIVE AND UNREASONABLE FOR CONSUMERS TO**
3 **PAY**

4
5 ***Q14. WHAT IS THE PRE-TAX RATE OF RETURN DUKE PROPOSED TO CHARGE***
6 ***CUSTOMERS FOR ITS CAPITAL EXPENDITURE PROGRAM?***

7 ***A14.*** Duke proposes to use a pre-tax rate of return of 9.16% in calculating the Rider CEP
8 revenue requirement.³⁷ Duke indicates that this pre-tax rate of return reflects the rate of
9 return components stipulated in Duke's last rate case, Case No. 12-1585-GA-AIR et al.³⁸
10 Specifically, the 9.16% pre-tax rate of return is based on: a cost of equity (or return on
11 equity, ROE) of 9.84%, a cost of long-term debt of 5.32%, a capital structure of 46.7%
12 debt and 53.3% equity, and a tax gross-up factor of 1.2727273 reflecting the federal
13 income tax rate of 21% currently in place.³⁹

14
15 ***Q15. IS THIS PRE-TAX RATE OF RETURN FROM DUKE'S RATE CASE FILED IN***
16 ***2012, JUST AND REASONABLE FOR DUKE'S CUSTOMERS TO PAY NOW?***

17 ***A15.*** No. OCC objects to the adoption of this pre-tax rate of return.⁴⁰ A pre-tax rate of return of
18 9.16% on Duke's CEP rate base is neither justified nor reasonable under current market

³⁷ See Application, Exhibit J, Schedule 1.

³⁸ *Id.*

³⁹ See Case No. 12-1685-GA-AIR, Opinion and Order at 13 (November 13, 2013), and Application Exhibit I, Schedule A-1 (May 3, 2019).

⁴⁰ See OCC objection 6.

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1 conditions or established regulatory principles. Given the significant decline in the
2 interest rates and cost of capital since 2012, continuing to use the return on equity and
3 cost of debt set eight years ago will lead to an excessive and unreasonable CEP charges
4 for customers to pay.

5
6 ***Q16. IS THE PUCO REQUIRED TO USE THE RATE OF RETURN SET IN THE LAST***
7 ***RATE CASE FOR SUBSEQUENT RIDERS THAT CUSTOMERS PAY?***

8 ***A16.*** No. There is no requirement that the PUCO use the rate of return decided in the last rate
9 case for any subsequent rider cases or other proceedings that involve a return on rate
10 base.

11
12 ***Q17. DO YOU AGREE WITH DUKE'S CLAIM THAT ANY REDUCTION IN RATE OF***
13 ***RETURN IN THIS PROCEEDING WOULD BE ARBITRARY AND NOT***
14 ***AFFORDING DUKE THE OPPORTUNITY TO DEVELOP, SUPPORT, AND***
15 ***LITIGATE A FAIR RATE OF RETURN?***

16 ***A17.*** No. I do not agree with this claim by Duke.⁴¹ Duke was given the opportunity to update
17 its rate of return components by the PUCO and Duke has provided updated information
18 on its weighted cost of long-term debt and capital structure as of December 31, 2018.⁴²
19 However, Duke chose not to update its cost of equity in its supplemental filings. Duke

⁴¹ See Supplemental Testimony of Jay P. Brown at 21(January 6, 2021).

⁴² See Supplemental Filing, Exhibit I Schedules D-1A, and D-3A (September 9, 2019).

1 also has the opportunity to file testimony supporting the update of its rate of return
2 components and it chose not to do it.

3
4 The timely update of the rate of return components after eight years and with very
5 significant reductions in the costs of debt and equity in the financial market is reasonable,
6 not arbitrary. To continue using an outdated and highly inflated rate of return, to the
7 detriment of consumers, is arbitrary. Allowing Duke to do so is arbitrary and
8 unreasonable.

9
10 ***Q18. WHAT HAVE YOU OBSERVED REGARDING THE FINANCIAL MARKET***
11 ***CONDITIONS SINCE 2012 THAT SHOULD GUIDE THE PUCO IN SETTING***
12 ***RATES FOR DUKE'S CUSTOMERS?***

13 ***A18.*** The most pronounced changes in the financial market over the last eight years after
14 Duke's last gas rate case are the significant decline in the costs of debt and equity for all
15 businesses including regulated utilities.

16
17 According to S&P Global Market Intelligence, a widely used and reliable trade
18 publication, the average authorized return on equity ("ROE") in gas rate cases decided
19 nationwide has declined from 9.94% in 2012 to 9.71% in 2019 and 9.40% in the first half
20 of 2020.⁴³ As for the costs of long-term debt, it also declined drastically from 2012 to

⁴³ See <https://platform.mi.spglobal.com/web/client?auth=inherit#news/file?keyfileversion=52840B38-67A7-96F2-7C9B-283021E904EC&KeyFileFormat=3&isNewsletter=1>. Access may require paid subscription.

1 2020, probably more so than the decline in the authorized ROEs. For example, the daily
2 Long-Term Composite Rate (defined as the unweighted average of bid yields on all
3 outstanding fixed-coupon bonds neither due nor callable in less than 10 years) published
4 by the U.S. Treasury has decreased from 2.64% in January 3, 2012 to 1.04% in July, 31
5 2020.⁴⁴ The yields of BBB-rated corporate bonds, generally considered by many financial
6 analysts as a proxy for long-term debts of regulated utilities, published by the St. Louis
7 Federal Reserve Bank have shown a similar degree of decline from 4.58 in January 3,
8 2012 to 2.35% in July 31, 2020.⁴⁵ I expect this trend of declining cost of equity (or the
9 authorized ROE) and cost of debt for regulated utilities to continue for the next few years
10 based on the struggling U.S. economy and the challenging employment condition.

11
12 ***Q19. IS DUKE FACING ANY UNUSUAL AND DISTINCT RISKS THAT JUSTIFY***
13 ***CHARGING CUSTOMERS A HIGHER RATE OF RETURN THAN A TYPICAL***
14 ***GAS UTILITY?***

15 ***A19.*** No. Duke currently has an above-average investment-grade credit rating. Duke is rated
16 “A-” with a “stable” outlook by S&P Global Ratings, and a “Baa1” with “stable” outlook
17 by Moody’s.⁴⁶ Duke’s parent company, Duke Energy Corporation, also has an
18 investment-grade credit rating with “A-” rating and a “stable” outlook by S&P Global

⁴⁴ See <https://www.treasury.gov/resource-center/data-chart-center/interest-rates/Pages/TextView.aspx?data=longtermrate>.

⁴⁵ See <https://fred.stlouisfed.org/series/BAMLC0A4CBBBEY>.

⁴⁶ See <https://www.duke-energy.com/our-company/investors/fixed-income-investors/credit-ratings>.

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1 Ratings and “Baa1” rating with “stable” outlook by Moody’s.⁴⁷ There is no indication
2 that Duke is facing or will face any unusual and distinct business and financial risks that
3 would distinguish it significantly from a typical regulated gas distribution company.
4 Duke’s expected earnings are considered stable especially in the current economic
5 environment with considerable uncertainty due to the coronavirus pandemic and
6 economic dislocations arising from the pandemic. Duke is providing an essential gas
7 utility service that is needed by almost everyone within its service territory.

8
9 In addition, under Ohio’s current regulatory environment, Duke has various riders and
10 “credit supportive” rate design in place that would largely insulate Duke from any usage
11 decline due to economic recession or other factors. There is simply no basis whatsoever
12 to consider Duke to be riskier than an average gas utility and to give it a ROE higher than
13 that authorized for an average gas utility in recent years.

14
15 ***Q20. WHAT IS YOUR RECOMMENDED CAPITAL STRUCTURE FOR DUKE IN THIS***
16 ***PROCEEDING?***

17 ***A20.*** Because Duke has provided an updated capital structure as of December 31, 2018 in its
18 Supplemental filing made on September 9, 2019, I propose to use this updated capital
19 structure of 46.03% debt and 53.97% equity as of December 31, 2018 for calculating the
20 pre-tax rate of return in this proceeding.⁴⁸

⁴⁷ *Id.*

⁴⁸ See Supplemental Filing, Exhibit I Schedule D-1A (September 9, 2019).

1 ***Q21. WHAT IS YOUR RECOMMENDED COST OF LONG-TERM DEBT FOR DUKE IN***
2 ***THIS PROCEEDING?***

3 ***A21.*** In its Application, Duke proposed to use the cost of debt of 5.32% approved in 2012 to
4 set the pre-tax rate of return for its CEP investments. This cost of debt of 5.32% is
5 outdated and overstated. As ordered by the PUCO, Duke has submitted supplemental
6 information regarding its costs of debt. Duke calculated its embedded cost of long-term
7 debt to be 4.94% as of December 31, 2018.⁴⁹

8
9 Duke's current cost of long-term debt has decreased further from 4.94% because Duke
10 has refinanced its long-term debts totaling \$1.2 billion in 2019 and 2020. Duke has sold
11 three First Mortgage Bonds totaling \$1.2 billion in 2019 and 2020: a \$400 million bond
12 due in 2029 with an interest rate of 3.65%, another \$400 million bond due in 2049 with
13 an interest rate of 4.30%, and a \$400 million due in 2030 with an interest rate of 2.125%
14 on May 21, 2020.⁵⁰ Part of the proceeds of the 2019 First Mortgage Bonds was used to
15 retire the First Mortgage Bonds of \$450 million (with an interest rate of 5.450%) that
16 would mature on April 1, 2019.⁵¹ As a result of these debt financings in 2019 and 2020, I
17 have updated Duke's current cost of long-term debt to be approximately 4.03%. This
18 calculation is shown in Table 5.

⁴⁹ See Supplemental Filing, Exhibit I, Schedule D-3A (September 9, 2019). This filing can be accessed at <http://dis.puc.state.oh.us/DocumentRecord.aspx?DocID=e5c71b3d-cff6-4ef1-9220-46cdd963960f>.

⁵⁰ See PUCO Case No. 18-238-GE-AIS, Report of Issuance (January 8, 2019). This Report can be access at <http://dis.puc.state.oh.us/TiffToPdf/A1001001A19A08B10841D01065.pdf>, and PUCO Case No. 19-637-AIS, Report of Issuance (June 16, 2020). This Report can be access at <http://dis.puc.state.oh.us/TiffToPdf/A1001001A20F16B03433G01413.pdf>.

⁵¹ See PUCO Case No. 18-238-GE-AIS, Report of Issuance at S-10.

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**Table 5
Duke's Updated Cost of Long-term Debt**

	Face Amount Outstanding	Interest rate	Unamortized Discount	Unamortized Debt Expense	Unamortized Loss on Reacquired Debt	Carrying Value	Annual Interest Cost	Cost of Debt
	(1)	(2)	(3)	(4)	(5)	(6) = (1) + (3) - (4) - (5)	(7) = (1) * (2)	
As of 12/31/2018	\$1,575,184,011	varies	(\$30,865,309)	\$6,489,384	\$2,781,185	\$1,535,027,083	\$75,895,057	4.94%
1/8/2019 Debt Finance (1)	\$400,000,000	3.65%	(\$2,600,000)	\$277,000	\$0	\$397,123,000	\$14,600,000	3.68%
1/8/2019 Debt Finance (2)	\$400,000,000	4.30%	(\$3,500,000)	\$277,000	\$0	\$396,223,000	\$17,200,000	4.34%
4/1/2019 Debt Retirement	\$450,000,000	5.45%				\$450,000,000	\$24,525,000	5.45%
5/21/2020 Refinance	\$400,000,000	2.125%	(\$2,600,000)	\$560,000	\$0	\$397,123,000	\$8,600,000	2.17%
Total	\$2,325,184,011	varies	(\$39,586,359)	\$7,603,384	\$2,781,185	\$2,275,313,083	\$116,195,057	4.03%

Q22. WHAT IS YOUR RECOMMENDED COST OF EQUITY (OR RETURN ON EQUITY) THAT CUSTOMERS SHOULD PAY FOR DUKE'S CEP PROGRAM?

A22. Because Duke is not facing any unusual and distinct business and financial risks in comparison to other regulated gas utilities, I propose to use the average ROEs authorized for gas distribution utilities in 2019 and the first half of 2020 nationwide as the starting point for setting the baseline ROE for Duke in this proceeding. Based on the rate case data compiled by S&P Global Market Intelligence, the average of the average ROEs granted in gas rate cases in 2019 (9.71%) and the first half of 2020 (9.40%) is 9.56%. However, in light of the favorable Ohio regulatory environment that Duke is operating

1 and the low risk profile of its gas distribution business and the current economic stress
2 experienced by many Duke's customers, I make a downward adjustment of 20 basis point
3 (0.20%) to the baseline ROE, resulting in a final recommended ROE of 9.36%.

4
5 ***Q23. WHAT IS YOUR RECOMMENDED PRE-TAX RATE OF RETURN FOR DUKE IN***
6 ***THIS PROCEEDING?***

7 ***A23.*** If my recommended cost of equity of 9.36% and cost of long-term debt of 4.03% were
8 adopted and applied to the capital structure of 46.03% debt and 53.97% equity, with the
9 cost of equity grossed-up (with a gross-up factor of 1.2727273 as proposed by Duke) for
10 federal income tax, the resulting pre-tax rate of return would be 8.29%. This is my
11 recommended pre-tax rate of return for Duke's capital expenditure program.

12
13 **IV. SUMMARY AND CONCLUSION**

14
15 ***Q24. PLEASE SUMMARIZE YOUR RECOMMENDATIONS FOR CONSUMER***
16 ***PROTECTION IN THIS PROCEEDING.***

17 ***A24.*** To protect Duke's customers from paying unjust and unreasonable rates, the PUCO
18 should reject the Settlement because the Settlement does not satisfy the three-prong test
19 used by the PUCO in approving a settlement. I also recommend that the PUCO should set
20 the pre-tax rate of return applicable to Duke's current capital expenditure program based
21 on current market conditions instead of a rate of return set eight years ago. As observed
22 by the U.S. Supreme Court nearly one hundred years ago in the landmark *Bluefield*

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1 decision, “[a] rate of return may be reasonable at one time and become too high or too
2 low by changes affecting opportunities for investment, the money market, and business
3 conditions generally.”⁵² This is precisely the situation here. The PUCO should adopt a
4 pre-tax rate of return no higher than 8.29% for determining what consumers should pay if
5 Rider CEP is approved.

6
7 Furthermore, to protect Duke’s customers from unreasonable and substantial increase in
8 monthly fixed charge, I recommend that the PUCO reject the residential monthly rate cap
9 included in the Settlement. A more reasonable residential rate cap as proposed by another
10 OCC witness, Kerry J. Adkins, should be adopted instead if the CEP program is approved
11 by the PUCO. The monthly residential rate cap included in the Settlement would only
12 accelerate the collection of charges by Duke and offer no real protection to residential
13 customers for sudden and drastic rate increase.

14
15 ***Q25. DOES THIS CONCLUDE YOUR TESTIMONY?***

16 ***A25.*** Yes. However, I reserve the right to supplement my testimony in the event that additional
17 testimony is filed, or if new information or data in connection with this proceeding
18 becomes available.

⁵² See *Bluefield Water Works v. Public Service Comm'n*, 262 U.S. 679 (1923).

CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing *Direct Testimony of Daniel J. Duann, Ph.D.* on behalf of the Office of the Ohio Consumers' Counsel has been served upon those persons listed below via electronic service this 13th day of January 2021.

/s/William J. Michael
William J. Michael
Assistant Consumers' Counsel

The PUCO's e-filing system will electronically serve notice of the filing of this document on the following parties:

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Daniel J. Duann, Ph.D.
List of Testimonies Filed Before PUCO

1. *Application of The Dayton Power and Light Company for Approval of Its Electric Security Plan*, Case No. 08-1094-EL-SSO (January 26, 2009).
2. *Application of Ohio American Water Company to Increase Its Rates for Water and Sewer Service Provided to Its Entire Service Area*, Case No. 09-391-WS-AIR (January 4, 2010).
3. *Application of Aqua Ohio, Inc. for Authority to Increase its Rates and Charges in its Masury Division*, Case No. 09-560-WW-AIR (February 22, 2010).
4. *Application of Aqua Ohio, Inc. for Authority to increase its Rates and Charges in its Lake Erie Division*, Case No. 09-1044-WW-AIR (June 21, 2010).
5. *In the Matter of the Fuel Adjustment Clauses for Columbus Southern Power Company and AEP Company*, Case Nos. 09-872-EL-FAC and 09-873-EL-FAC (August 16, 2010).
6. *In the Matter of the Application of Columbus Southern Power Company for Approval of an Electric Security Plan; an Amendment to its Corporate Separation Plan; and the Sale or Transfer of Certain Generating Asset (Remand)*, Case Nos. 08-917-EL-SSO et al (June 30, 2011).
7. *In the Matter of the Application of The East Ohio Gas Company d/b/a Dominion East Ohio for Approval of Tariffs to Modify and further Accelerate its Pipeline Infrastructure Replacement Program and to Recover the Associated Costs et al.*, Case Nos. 11-2401-GA-ALT and 08-169-GA-ALT (July 15, 2011).
8. *In the Matter of the Application of Columbus Southern Power Company and AEP Company for Authority to Establish a Standard Service Offer Pursuant to 4928.143, Ohio Rev. Code in the Form of an Electric Security Plan (ESP)*, Case Nos. 11-346-EL-SSO, et al (July 25, 2011).
9. *In the Matter of the Application of Columbus Southern Power Company and AEP Company for Authority to Merge and Related Approval (ESP Stipulation)*, Case Nos. 10-2376-EL-UNC, et al (September 27, 2011).
10. *In the Matter of the 2010 Annual Filing of Columbus Southern Power Company and AEP Company Required by Rule 4901:1-35-10, Ohio Administrative Code*, Case Nos. 11-4571-EL-UNC and 11-4572-EL-UNC (October 12, 2011).
11. *In the Matter of the Application of Ohio American Water Company to Increase Its Rates for Water and Sewer Service Provided to Its Entire Service Area*, Case No. 11-4161-WS-AIR (March 1, 2012).

12. *In the Matter of the Application of Columbus Southern Power Company and Ohio Power Company for Authority to Establish a Standard Service Offer Pursuant to 4928.143, Ohio Rev. Code in the Form of an Electric Security Plan (Modified ESP), Case Nos. 11-346-EL-SSO, et al (May 4, 2012).*
13. *In the Matter of the Application of Ohio Edison Company, The Cleveland Electric Illuminating Company, and The Toledo Edison Company For Authority to Establish a Standard Service Offer Pursuant to R.C. § 4928.143 in the Form Of an Electric Security Plan, Case No. 12-1230-EL-SSO (May 21, 2012).*
14. *In the Matter of the Application of Duke Energy Ohio, Inc., for an Increase in Electric Distribution Rates, et al. Case Nos. 12-1682-EL-AIR (February 19, 2013).*
15. *In the Matter of the Application of Duke Energy Ohio, Inc., for an Increase in Gas Rates, Case Nos. 12-1685-GA-AIR, et al (February 25, 2013).*
16. *In the Matter of the Application of Dayton Power & Light Company for Authority to Establish a Standard Service Offer in the Form Of an Electric Security Plan Pursuant to R.C. 4928.143, Case No. 12-426-EL-SSO et al. (March 1, 2013).*
17. *In the Matter of the Application of The Dayton Power and Light Company for Authority to Recover of Certain Storm-related Service Restoration Costs, Case Nos. 12-3062-EL-RDR, et al. (January 31, 2014).*
18. *In the Matter of the Application of The Dayton Power and Light Company for Authority to Recover of Certain Storm-related Service Restoration Costs, Case Nos. 12-3062-EL-RDR, et al. (May 23, 2014).*
19. *In the Matter of the Application of Aqua Ohio, Inc. to Increase Its Rates and Charges for Its Waterworks Service, Case No. 13-2124-WW-AIR (August 4, 2014).*
20. *In the Matter of the Application Seeking Approval of AEP Company's Proposal to Enter into an Affiliate Power Purchase Agreement for Inclusion in the Power Purchase Agreement Ride, Case No. 14-1693-EL-RDR, et al. (September 11, 2015).*
21. *In the matter of the Application of Duke Energy Ohio, Inc. for Approval of an Alternative Rate Plan Pursuant to R.C. 4929.05, Revised Code, for an Accelerated Service Line Replacement Program, Case No. 14-1622-GA-ALT (November 6, 2015).*
22. *In the Matter of the Application of Ohio Edison Company, The Cleveland Electric Illuminating Company, and The Toledo Edison Company for Authority to Establish a Standard Service Offer Pursuant to R.C. 4928.141 in the Form of an Electric Security Plan, Case No. 14-1297-EL-SSO (June 22, 2016).*

23. *In the Matter of the Application of Ohio Power Company for Administration of the Significantly Excessive Earnings Test for 2014 under Section 4928.143 (F), Revised Code, and Rule 4901:1-35-10, Ohio Administrative Code, Case No. 16-1105-El-UNC (August 15, 2016).*
24. *In the Matter of the Application of Ohio Power Company for Administration of the Significantly Excessive Earnings Test for 2014 under Section 4928.143 (F), Revised Code, and Rule 4901:1-35-10, Ohio Administrative Code, Case No. 16-1105-El-UNC (September 19, 2016).*
25. *In the Matter of the Application of Aqua Ohio, Inc. for Authority to Increase Its Rates and Charges for Its Waterworks Service. Case No. 16-0997-WW-AIR (December 19, 2016).*
26. *In the Matter of the Application of Ohio Power Company for Administration of the Significantly Excessive Earnings Test for 2016 Under Section 4928.143(F), Revised Code, and Rule 4901:1-35-10, Ohio Administrative Code, Case No. 17-1230-EL-UNC (January 12, 2018).*
27. *In the Matter of the Annual Application of Duke Energy Ohio, Inc., for an Adjustment to Rider AMRP Rates. Case No. 17-2318-GA-AIR (April 5, 2018).*
28. *In the Matter of the Application of the Dayton Power and Light Company for an Increase in Electric Distribution Rates. Case No. 15-1380-EL-AIR (April 11, 2018).*
29. *In the Matter of the Application of Duke Energy Ohio, Inc., for an Increase in Distribution Rates. Case No. 17-0032-EL-AIR et al., (June 25, 2018).*
30. *In the Matter of the Determination of the Existence of Significantly Excessive Earnings Test for 2017 Under the Electric Security Plan of Ohio Edison Company, The Cleveland Electric Illuminating Company, and The Toledo Edison Company. Case No. 18-0967-EL-UNC, (October 16, 2018).*
31. *In the Matter of the Application of Suburban Natural Gas Company for an Increase in Gas Distribution Rates. Case No. 18-1205-GA-AIR et al., (March 8, 2019).*
32. *In the Matter of the Application of Suburban Natural Gas Company for an Increase in Gas Distribution Rates. Case No. 18-1205-GA-AIR et al., (June 21, 2019).*
33. *In the Matter of the Application of Northeast Ohio Gas Corp. for an Increase in Gas Distribution Rates. Case No. 18-1720-GA-AIR et al., (July 25, 2019).*

34. *In the Matter of the Application of Northeast Ohio Gas Corp. for an Increase in Gas Distribution Rates.* Case No. 18-1720-GA-AIR et al., (September 5, 2019).
35. *In the Matter of the Application of Ohio Power Company for Administration of the Significantly Excessive Earnings Test for 2018 Under Section 4029.143(F), Revised Code, and Rule 4901:1-35-10, Ohio Administrative Code.* Case No. 19-1098-EL-UNC, (August 30, 2019).
36. *In the Matter of the Application of Ohio Power Company for Administration of the Significantly Excessive Earnings Test for 2018 Under Section 4029.143(F), Revised Code, and Rule 4901:1-35-10, Ohio Administrative Code.* Case No. 19-1098-EL-UNC, (November 5, 2019).

Selected Publications of Daniel J. Duann, Ph.D.**Journal Articles**

Regulation: The Cato Review of Business & Government, "Turning up the Heat in the Natural Gas Industry," Vol. 19, 1996, (with Kenneth W. Costello).

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International Symposium on Energy, Environment & Information Management, Argonne National Laboratory, **Natural Gas Vehicles: Barriers, Potentials, and Government Policies**, 1992.

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Public Service Commissions, 1992 (with Youssef Hegazy).

The National Regulatory Research Institute, **Incentive Regulation for Local Gas Distribution Companies under Changing Industry Structure**, 1991 (with Mohammad Harunuzzaman, Kenneth W. Costello, and Sung-Bong Cho).

The National Regulatory Research Institute, **Discussion Papers on Competitive Bidding And Transmission Access and Pricing issues in the Context of Integrated Resource Planning**, 1990 (with Robert E. Bums, Kenneth Rose, Kevin Kelly, and Narayan Rau).

The National Regulatory Research Institute, **Gas Storage: Strategy, Regulation, and Some Competitive Implications**, 1990 (with Peter A. Nagler, Mohammad Harunuzzaman, and Govindarajan Iyyuni).

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Summary: Testimony Direct Testimony of Daniel J. Duann, Ph.D. for Consumer Protection from the Stipulation on Behalf of the Office of The Ohio Consumers' Counsel electronically filed by Mrs. Tracy J Greene on behalf of Michael, William J.