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Attorneys for Plaintiffs

UNITED STATES DISTRICT COURT
 SOUTHERN DISTRICT OF CALIFORNIA

SOUTH BAY UNITED PENTECOSTAL
 CHURCH, a California non-profit
 corporation; and BISHOP ARTHUR
 HODGES III, an individual,

Plaintiffs,

v.

GAVIN NEWSOM, in his official capacity
 as the Governor of California, *et al.*,

Defendants.

Case No. 3:20-cv-865-BAS

**Declaration of Charles Cicchetti
 in Support of Plaintiffs'
 Renewed Motion for a
 Temporary Restraining Order /
 Preliminary Injunction**

Judge: Hon. Cynthia Bashant

1 I, Charles J. Cicchetti, declare and state as follows:

2 1. I am a resident of the State of California. I am a Managing Director at
3 Berkeley Research Group, Inc. The views are my own and do not reflect the views of
4 any entities with which I am affiliated. I submit this declaration in support of
5 Plaintiffs' Renewed Motion for a Temporary Restraining Order / Preliminary
6 Injunction. I have personal knowledge of the matters set forth below, and could and
7 would testify competently to them if called upon to do so.

8 2. I am an economist with a BA from Colorado College (1965) and a Ph.D.
9 from Rutgers University (1969), and three years of Post Graduate Research at
10 Resources for the Future (RFF). I was formally trained in statistics and econometrics
11 and accepted as an expert witness in statistics and econometrics in federal court.¹ In
12 the course of my work I regularly use epidemiology models and advanced statistical
13 techniques. I have written expert reports analyzing toxic chemical and health effects,
14 including three reports used in settlements related to the health and cancer risks
15 related to TCP in drinking water. I have written three monographs in support of
16 litigation related to federal regulations based on morbidity and mortality risks from air
17 pollution: *Why EPA's Mercury and Air Toxics Rule is Good for the Economy and*
18 *America's Workforce*, July 2011; *Expensive Neighbors: The Hidden Cost of Harmful*
19 *Pollution to Downwind Employers and Businesses*, January 2011; *The True Cost of*
20 *Harmful Pollution to Downwind Families and Business*, November 2010.² In much of
21 my work I design surveys, draw random samples and test the data for statistically

22 ¹ For example, I analyzed the American Cancer Society's million-person health data
23 and a Meta study of the combined health risks of smoking and asbestos exposure for a
24 deposition in California Court in *Raybestos-Manhattan of Whiteley v. Raybestos-*
25 *Manhattan*, Case No. 303184, November 30, 1999. More recently, I provided an
26 expert report in *San Diego Unified Port District v. Monsanto*, No. 3:15-CV-0578 (S.D.
Cal. Apr. 5, 2019).

27 ² The last two monographs were prepared for Exelon in response to EPA's proposed
28 Transport Rule under the Clean Air Act.

1 significant differences. I also have been asked to evaluate the work of other experts
2 and to opine on the data used to draw conclusions and the significance of omitted
3 variables and ignored facts.

4 3. I testified as an expert hundreds of times since my first testimony in 1967
5 before regulators, arbitration panels, state and federal courts in Canada and the
6 United States. Much of my work involves data analysis and interpretation, sampling
7 and survey design.

8 4. I commenced my professional career after completing my academic and
9 post-doctoral studies and eventually became a tenured Professor of Economics and
10 Environmental Studies at the University of Wisconsin from 1972 to 1985. For the
11 first three years I also served as the first economist for the Environmental Defense
12 Fund (EDF). From 1975 through 1976, I served as the Director of the Wisconsin
13 Energy Office and as Special Energy Counselor for the Governor. In 1977, I was
14 appointed by the Governor as Chair of the Public Service Commission of Wisconsin
15 (“PSCW”) and held that position until 1979 and served as a Commissioner until
16 1980.

17 5. I am a consultant and expert witness. During much of my career I taught
18 economics and public policy. From 1987 until 1990, I served as Deputy Director of
19 the Energy and Environmental Policy Center at the John F. Kennedy School of
20 Government at Harvard University. After teaching part time, in 1998, I accepted the
21 Jeffrey J. Miller Chair in Government, Business and the Economy at the University
22 of Southern California, which I held until 2006. I returned to a part time role at USC,
23 where I currently meet with students who study lectures that I pre-recorded. I served
24 on the California Governor’s Market Advisory Group responding to the California
25 Energy Crisis in 2000. I joined Berkeley Research Group as Managing Director in
26 2016. A true and correct copy of my *c.v.* is attached as Exhibit 1.

27 6. The purpose of my Declaration is to explain California’s regulations that
28 place certain counties on a “monitoring list,” and if so placed, require restrictions on

1 how houses of worship may operate. I show that California's exclusive reliance on the
2 number of COVID-19 "cases" to quantify health risks is too narrow a focus. Very
3 importantly the number of cases tracks the level of testing, which has been ramped-
4 up. This quantum omits other measures of morbidity and mortality that are better
5 indicators of health risks and provide much more accurate measures of changes in
6 health risks over time.

7 7. California's recent actions seem predicated partially on a belief that
8 California is experiencing a worsening in COVID-19 related health conditions. The
9 primary data used to support the conclusion that things are worse in California is the
10 dramatic rise in positive cases reported daily. More recently, even this data is
11 trending down in California. No death or serious illness should be ignored. California
12 has its share of both. That said, trade-offs are mostly necessary to achieve the Public
13 Interest reflecting a sober balance of benefits and costs. Very importantly, other data
14 related to testing and health must be considered. I teach my students and testify
15 routinely explaining that "omitting variables" biases conclusions. Facts ignored
16 result in flawed public policy.

17 8. In practical terms, concentrating on a single measure of health risk to
18 determine the best response omits a great deal, which leads to biased conclusions and
19 can result in faulty policy choices. California relies heavily, if not exclusively on
20 COVID-19 case counts (cases), to determine the stage or phase of recovery, if various
21 counties should slow down, accelerate or reverse opening businesses, gathering
22 places and more. More specifically, the California Department of Public Health
23 (CDPH) issued "Guidance on Closure of Sectors in Response to COVID-19" on July
24 1, 2020. The state monitors counties to determine what can open, remain shuttered,
25 and closed after reopening.

26 9. The current Guidance continues the May 7, 2020 Order of the State
27 Public Health Officer that relies on confirmed cases requiring "stable rates of
28 infections", based on new infections, hospitalizations, surge capacity, improved

1 ability to test, contract trace, isolate and provide support to individuals exposed. Two
2 refer to medical matters directly. “Cases” mean people who test positive for a
3 COVID-19 infection. “Hospitalizations” refers to available capacity including
4 standard non-Covid-19 patients, current Covid-19 patients in hospital care and
5 potential surges in patients needing hospital care. The description of hospitalizations
6 anticipates that some treatments and surgeries can be postponed. This makes the
7 potential supply of beds, ICU and ventilator resources somewhat elastic because it is
8 reasonable to free-up resources if an “acute care surge” in COVID-19 patients were
9 to hit California’s hospitals. (I explain below that California counties mostly satisfy
10 the standards based on maintaining hospital capacity.)

11 10. The CDPH formulates its “opening” or the more pessimistic
12 “shuttering” criteria for counties and sub-political units with a variance form,
13 “Covid-19 County Variance Attestation Form”. This provides a roadmap that allows
14 political sub-divisions to seek to alter the state’s rules on what can open in either
15 direction.

16 11. The CDPH publishes its data that monitors its “opening” criteria daily.
17 As of July 23, 2020. Only 6 of 58 counties exceeded the 3-day criteria for increased
18 hospitalizations for COVID-19 and other patients by more than 10%. Two of the six
19 were 10.5% or less. None of the counties had less than the 25% of stand-by ventilator
20 capacity criteria. Only 12 of the 58 counties missed the stand-by ICU bed availability
21 criteria of 20%. Based on hospital resource availability criteria, virtually all counties in
22 California could re-open.

23 12. The number of new cases being reported is the criteria that drives
24 county closures in California. Most counties are performing the required number of
25 tests. Four counties had fewer than the CDPH criteria of 150 tests performed per
26
27
28

1 100,000 people based on a 7-day average with a 7-day lag. Nevertheless, three³
2 passed at least one of the “Case Rate” criteria based on less than 100 per 100,000
3 over 14 days, or less than a 25 case rate and positivity less than 8%. The other 54
4 counties exceeded the number of tests per day criteria, but could not satisfy the case
5 level criteria for re-opening. There were 23 counties with case rates that exceeded
6 both the CDPH threshold elevated case rate criteria. There were another 14 counties
7 that did not CDPH’s case rate per 100,000 (14 day) criteria. These 37 counties could
8 not seek a variance. Others would need to file a variance to re-open.

9 13. It is logical to expect that the number of tests performed and cases
10 reported would be highly correlated. Put simply more testing will yield more positive
11 cases being reported. The only exceptions would reflect differences in demographic
12 and medical conditions in the additional people being tested. In the early days of
13 covid-19 most testing was done at hospitals where people who were very sick were
14 omitted and for first responders and medical-care providers. The former were almost
15 certainly infected. The first responders were often healthy and relatively younger
16 than the senior citizens who were very prone to being infected and becoming sick.

17 14. By mid-April testing was ramping up. Prior testing samples were not
18 random. The initial expanded testing involved self-selecting and this skewed early
19 results, but the initial bias was reduced. By mid-May there were 10 million tests
20 performed and a month later in mid-June the total number of tests doubled. In July
21 total testing nationwide approaches 50 million. Testing remains mostly self-selection.
22 Nevertheless, with the number of tests approximating 15% of the population the “law
23 of large numbers” results in the sample mean moving closer to the average of the
24 whole population. For this reason, with more testing the underlying statistics related
25 to infection rates and deaths become more stable. Nationally, the 7-day average
26

27 ³ Glenn county with a population of about 28,000 did not satisfy the state’s number
28 of testing and case level criteria.

infection rate per test using the Johns Hopkins University (JHU) data is 8.5%. The current national death rate across all demographic groups is about 43 people per 100,000. The deaths per infected case nationwide average 3.7%.

15. California is a state with about 40 million people. The number tested is about 6.7 million, or nearly 17%. California has a lower corresponding infection rate of about 7.6% than the national average. Current deaths for all demographic groups are 19.9 people per 100,000 or less than half the national rate. In California the deaths per infected case averages less than 2.0%.

16. The JHU and CDC data show that between mid-May through late July that as testing was ramped up cases reported and thus infections 100,000 increased proportionally. The CDPH criteria for seeking a variance to open businesses and houses of worship is based on the cases reported at a county level. With high and growing levels of testing this effectively means shuttering businesses and houses of worship.

17. Other states have not implemented what is in effect a statewide ban on religious worship. This is despite the fact that California has not suffered as much as the rest of the nation and other large states. See the following table⁴. Further, since early July confirmed new cases and deaths have stabilized in California based on moving average data.

Politico Summary top five states (July 22, 2020)

	Deaths	Pos Cases	Tests	Population
NY (all)	25,506	407,326	5,164,812	19 million
CA	7,694	391,538	6,414,321	40 million
FL	5,183	360,394	3,052,106	21 million
TX	4,020	332,434	2,984,554	29 million
NJ	15,715	176,963	1,802,874	8.9 million

⁴ Politico data is used because CDC data separate New York and New York City.

1 18. At the end of July, California had less mortality and morbidity relative to
2 its population size compared to national data and the other large states shown except
3 for Texas with respect to deaths relative to population. California's infection rate of
4 positive cases divided by the number of tests using the Politico data is 6.1%.
5 Nationwide there are about 4.17 million positive cases with about 4.86 million cases
6 for an infection rate nationally of 8.6%. California has less than half the national
7 mortality rate and lower infection rates.

8 19. Things are improving in California. On August 9, 2020 the tracking data
9 published in the New York Times shows a 33% drop in cases for the past week
10 compared to the average reported two earlier weeks despite more testing. CDPH data
11 show declining positivity or infection rates, as well as a downward trend in reported
12 deaths.

13 20. While health statistics are improving across the reported metrics, there
14 is no scientific evidence that supports California continuing to restrict religious
15 worship. At the very least, California should begin to ease the ban on the 25% of space
16 occupancy and 100 persons attending religious gatherings. Regardless, easing
17 restrictions is simply a cautious step. In reality, there is insufficient evidence or facts
18 to justify the exceptional decision to continue to shutter houses of worship unless
19 they can take their services outdoors. The use of the number of cases to drive this
20 policy obfuscates matters and yields a flawed statistic and a costly policy choice all
21 things considered.

22 21. California effectively bans houses of worship from reopening because it
23 adopted a nearly impossible to achieve "variance" application process. Virtually
24 every county could pass the hospitalization and critical medical resource availability
25 criteria the CDPH adopted for reopening. However, a relatively constant and now
26 improving infection rate, regardless of having lower infection rates than other states,
27 means that maintaining daily testing levels will yield more cases. Expanding testing as
28 planned in some counties will actually further increase the number of reported cases.

Headlines will proclaim a growing health threat and mostly ignore the stubborn fact that the more people tested the more cases will be detected. Worse, the CDPH criteria will make it impossible with expanded testing for variances to be granted. Just as important testing that reveals cases without symptoms is a form of natural vaccination. Yet, the media and public officials do not report this information, despite the fact that hospitals are not being over-run while cases increase. Now, we also find the new cases are declining sharply, which suggests less risk of hospitals, ICUs and resources being over-run.

22. Medical treatments are reportedly showing improvements in recovery and reducing the time COVID-19 patients need to be hospitalized and given extensive treatment. This is good news and deaths in California are also stabilizing since early July. Such successes are mostly good news. Nevertheless, they mask some important data that should affect the reasonableness of shuttering houses of worship.

I declare under penalty of perjury under the laws of the United States and the State of California that the foregoing is true and correct. Executed on August 10, 2020.

Charles Cicchetti

Charles Cicchetti

EXHIBIT 1

Curriculum Vitae



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SUMMARY

Charles J. Cicchetti, Ph.D. is a Managing Director at Berkeley Research Group. Dr. Cicchetti is an economist and former Chair of the Wisconsin Public Service Commission (PSCW). He was a tenured Full Professor of Economics and Environmental Studies at the University of Wisconsin, Madison, Deputy Director of the Energy and Environmental Policy Center at the John F. Kennedy School at Harvard University, and The Miller Chair of Government, Business and the Economy at The University of Southern California (USC). He currently lectures graduate students in the Electricity Engineering Department at the University of Southern California.

He testified extensively and written a number of books and articles on electricity economics. He co-authored *Perspective on Power* and the *Marginal Cost and Pricing of Electricity*, which is widely referenced worldwide. He also authored *Restructuring Electricity Markets*, discusses market economic principles developed for the World Bank, and *The California Electricity Crisis*, that expanded his discussion of electricity market liberalization and things to avoid. His most recent books are *Going Green and Getting Regulation Right* (2009), and *Climate Change and Regulation* (2019).

Dr. Cicchetti has served as an expert advisor in complex litigation and arbitration related to wholesale markets in Canada and the United States. He was the sole author of an *Amicus Curiae Brief for the US Supreme Court* on expanding wholesale markets to include demand-side management. Much of his work throughout his career includes valuing benefits and costs and estimating damages related to environmental preservation and injury and preservation.

EDUCATION

Ph.D., Economics	Rutgers University, 1969
B.A.	Colorado College, 1965
	US Air Force Academy, 1961 to 1964

PRESENT EMPLOYMENT

Managing Director and Member, Berkeley Research Group (BRG) 2017

Adjunct Instructor, Department of Electrical Engineering, USC Viterbi School of Engineering 2016 to present



PREVIOUS ACADEMIC POSITIONS

2009- Present	Instructor in Electric Engineering, University of Southern California
1991-2008	Adjunct Professor, University of Southern California
1998-2006	Jeffrey J. Miller Professor in Government, Business, and the Economy, University of Southern California
1987-1990	Deputy Director, Energy and Environmental Policy Center, John F. Kennedy School of Government, Harvard University
1979-1986	Tenured Professor of Economics and Environmental Studies, University of Wisconsin-Madison
1974-1979	Associate Professor, Economics and Environmental Studies, University of Wisconsin-Madison
1972-1974	Visiting Associate Professor, Economics and Environmental Studies, University of Wisconsin-Madison
1972	Associate Lecturer, School of Natural Resources of the University of Michigan
1969-1972	Post-Doctoral Research Resources for the Future, Washington, D.C.
1968-1969	Instructor, Rutgers University

PROFESSIONAL AWARDS, RECOGNITION, AND PRIZES

1965 Leo Mohl Award for Best Senior Thesis in Economics, Colorado College
1965 Kaye Prize for Outstanding Student in Economics, Colorado College

EXTERNAL GRANTS

1966 to 1969 US Department of the Interior (DOI), Bureau of Outdoor Recreation, financed PhD Thesis.
1972 to 1975 Environmental Defense Fund (EDF)
1972 to 1975 National Science Foundation and Upper Great Lakes Regional Commission
1973 to 1974 Ford Foundation Energy Policy Project and Public Interest Economic Foundation
1975 to 1977 National Science Foundation and Planning and Conservation Foundation

PROFESSIONAL AFFILIATIONS

PRIOR EDITORIAL BOARDS



Journal of Environmental Economics and Management, Former Member;
Energy Systems and Policy, Former Member
Land Economics, Former Editor

BUSINESS AND NOT-FOR-PROFIT AFFILIATIONS

2013-Present	Co-Founder and Board Member, Sally's Rescue Inc., dog rescue 501 3(c) Foundation
1996-2016	Co-Founder, Pacific Economics Group, a California LLC
2008-2016	Senior Advisor to Navigant Consulting, Inc.
1992-1996	Managing Director, Arthur Andersen Economic Consulting
1991-1992	Co-Chairman, Putnam, Hayes & Bartlett, Inc.
1988-1991	Managing Director, Putnam, Hayes & Bartlett, Inc.
1984-1987	Senior Vice President, National Economic Research Associates
1980-1984	Co-Founder and Partner, Madison Consulting Group
1977-1979	Chairman, Public Service Commission of Wisconsin, Appointed by Governor Patrick J. Lucey (member until 1980)
1975-1976	Director, Wisconsin Energy Office and Special Energy Counselor for Governor Patrick J. Lucey, State of Wisconsin

PUBLICATIONS

BOOKS AND MONOGRAPHS

Climate Change and Regulation: Going Green II. Vienna, Virginia: Public Utilities Report, Inc. 2019.

Amicus Curiae Brief of Charles J. Cicchetti (sole author) before the Supreme Court of the United States related to including Demand Side Bidding in wholesale electricity markets on behalf of Petitioners in *Federal Energy Regulatory Commission v. Elec. Power Supply Association*, 135 S. Ct. 2049 (2015).

Why EPA's Mercury and Air Toxics Rule is Good for the Economy and America's Workforce, July 2011.

The Results in Context: A Peer Review of EEI's "Potential Impacts of Environmental Regulation in the U.S. Generation Fleet," with Susan Tierney, PhD, May 11, 2011.

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The True Cost of Harmful Pollution to Downwind Families and Business, prepared for Exelon in response to EPA's proposed Transport Rule under the Clean Air Act, November 2010.



- Economic Regulation and the Development of Integrated Energy Systems*, with Mike Cleland & Sean Conway, *ICES Literary Series*, Vol. 1, September 2012.
- Going Green and Getting Regulation Right: A Primer for Energy Efficiency*. Vienna, Virginia: Public Utilities Report, Inc. 2009.
- Natural Gas: The Other California Energy Crisis*, Pacific Economics Group Working Paper, with Colin M. Long, February 2007.
- The California Electricity Crisis: What, Why, and What's Next*, with Jeffrey A. Dubin & Colin M. Long, 2004.
- A Tarnished Golden State: Why California Needs a Public/Private Partnership for its Electric Supply System*, with Colin M. Long, August 2003.
- Restructuring Electricity Markets: A World Perspective Post-California and Enron*, with Colin M. Long & Kristina M. Sepetys, 2003.
- Energy Deregulation: The Benefits of Competition Were Undermined by Structural Flaws in the Market, Unsuccessful Oversight, and Uncontrollable Competitive Forces*, 2001.
- Restructuring Electricity Markets: A World Perspective*, with Kristina M. Sepetys, 1996.
- The Economic Consequence of Independent Film Making*, with W.B. Peale, Stefan Boedeker, Jeffrey Dubin & Jeff Truitt, 1995.
- The Application of U.S. Regulatory Techniques to Spain's Electric Power Industry, Energy and Environmental Policy Center, Harvard University*, with Irwin M. Stelzer, March 1988.
- The Economic Theory of Enhanced Natural Gas Service to the Industrial Sector: An Applied Approach*, Vol. II, with L.D. Kirsch, 1982 (prepared for the Gas Research Institute, Contract No. 5080-380-0349)
- The Economic Theory of Enhanced Natural Gas Service to the Industrial Sector: An Applied Approach*, Vol. I, with L.D. Kirsch, 1981 (prepared for the Gas Research Institute, Contract No. 5080-380-0349).
- The Economic Effects of Deregulating Natural Gas*, with R.H. Haveman, M. Lowry, M. Post & R. Schmidt, for the Northeast Coalition for Energy Equity, 1981.
- The Marginal Cost and Pricing of Electricity: An Applied Approach*, with W. Gillen & P. Smolensky, Cambridge: Ballinger Publishing Company, 1977.
- The Costs of Congestion: An Econometric Analysis of Wilderness Recreation*, with V.K. Smith, Cambridge: Ballinger Publishing Company, 1976.
- Energy System Forecasting, Planning and Pricing*, ed. with W. Foell for the National Science Foundation, Madison: University of Wisconsin Monograph, 1975.
- Studies in Electric Utility Regulation*, ed. with J. Jurewitz for the Ford Foundation Energy Policy Project, Cambridge: Ballinger Publishing Company, 1975.
- Perspective on Power: A Study of the Regulation and Pricing of Electric Power*, with E. Berlin & W. Gillen for the Ford Foundation Energy Policy Project, Cambridge: Ballinger Publishing Company, 1974.



A Primer for Environmental Preservation: The Economics of Wild Rivers and Other Natural Wonders, New York: MSS Modular Publication, 1973.

Forecasting Recreation in the United States: An Economic Review of Methods and Applications to Plan for the Required Environmental Resources, Lexington: Lexington Books, June 1973.

Alaskan Oil: Alternative Routes and Markets, for Resources for the Future, Baltimore: Johns Hopkins University Press, December 1972.

The Demand and Supply of Outdoor Recreation: An Econometric Analysis, Ph.D. Thesis: Rutgers University, 1969. Also, with J.J. Seneca & P. Davidson, Washington, D.C.: U.S. Department of Interior, Bureau of Outdoor Recreation, Contract No. 7-14-07-4, 1969.

The Impact of Mine Drainage on Recreation (Appendix E, Appalachian Regional Commission, 1969). Consultant to Robert R. Nathan Associates, State of New York: an analysis recreation participation to develop the recreational attributes of Finger Lakes (1969). (Assisted John Carson of RRNA.)

Visitor Industry and Hawaii's Economy: A Benefit Cost Analysis, MATHEMATICA, Inc., Princeton, NJ 1969. Consultant to Mathematica Inc. (Princeton, NJ) assisted William Baumol to estimate an econometric model for the visitor industry in Hawaii to design state tax and tourist policy.

The Demand for Water Oriented Recreation, assisted Paul Davidson and Joseph Seneca of the Wharton School of Finance, RFF Mimeo, 1967.

A Neo Keynesian Equilibrium Analysis For an Open Economy, A.B. Thesis, Colorado College, Colorado, Springs, Colorado, May 1965.

ARTICLES

"Why Regulators Should Replace Electric Utility Rate Base: Challenging Choices," *Public Utilities Fortnightly*, May 2018.

"Why Are We Still Arguing About NEM: Competitive Markets Will Take Care of Next Burning Issue," *Public Utilities Fortnightly*, March 2017.

"Residential Demand Charges: A Bad Choice," *Public Utilities Fortnightly*, December 2016.

"Response to Brown Re: Net Metering," *Public Utilities Fortnightly*, April 2016.

"Order 745: Challenges Plain Old Electricity Markets," *Public Utilities Fortnightly*, April 2016.

"The Policy Aspects of Benefit-Cost Analyses for Distributed Solar Generation and Net Metering," *Electricity Policy, Electricity Daily*, January 2016.



- “Solar Battle Lines,” with Jon B. Wellinghof, *Public Utilities Fortnightly*, December 2015.
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- “Technology for the Masses: The Consumer-Centric Smart Grid and Its Challenge for Regulators,” with Philip Mause, *Public Utilities Fortnightly*, October 2011.
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- “A Brief History of Rate Base: Necessary Foundation of Regulatory Misfit,” with Colin M. Long, *Public Utilities Fortnightly*, July 2006.
- “ISOs and Transcos: What’s at Stake?” with Gary D. Bachman & Colin M. Long, *The Electricity Journal*, December 2000.
- “Politics as Usual: A Roadmap to Backlash, Backtracking and Re-regulation,” with Colin M. Long, *Public Utilities Fortnightly*, October 2000.
- “Transmission Products and Pricing: Hidden Agendas in the ISO/Transco Debate,” with Colin M. Long, *Public Utilities Fortnightly*, June 1999.
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- “Been There, Done That: Sunk Costs, Access Charges and the Transmission Pricing Debate,” *Energy*, Vol. XXI, No. 4, September 1996.
- “Regulating Competition: Transition or Travesty?” with Kristina M. Sepetys, *The Electricity Journal*, May 1996.
- “California Model Sets the Standard for Other States,” with Kristina M. Sepetys, *World Power Yearbook*, 1996.
- “Measuring the Effects of Natural Resource Damage and Environmental Stigma on Property Value,” *Environmental Law*, September/October 1995.
- “The Route Not Taken: The Decision to Build the Trans-Alaska Pipeline and the Aftermath,” *The American Enterprise*, Vol. 4, No. 5, September/October 1993.
- “A Micro-Econometric Analysis of Risk-Aversion and the Decision to Self-Insure,” with Jeffrey Dubin, *Journal of Political Economy*, Revised, July 1993. (Vol. 102, No. 1, February 1994.)
- “Energy Utilities, Conservation, Efficiency,” with Vinayak Bhattacharjee & William Rankin, *Contemporary Policy Issues*, Vol. XI, No. 1, January 1993.
- “Uniqueness, Irreversibility, and the Theory of Nonuse Values,” with Louis L. Wilde, *American Agricultural Economics Association*, December 1992.



- “Utility Energy Services,” with Ellen K. Moran, *Regulatory Incentives for Demand-Side Management*, Ch. 9, American Council for an Energy-Efficient Economy, December 1992.
- “A Micro-Econometric Analysis of Risk Aversion and the Decision to Self-Insure,” with Jeffrey A. Dubin, *California Institute of Technology*, January 1992.
- “The Use and Misuse of Surveys in Economic Analysis: Natural Resource Damage Assessment Under CERCLA,” with Jeffrey Dubin & Louis Wilde, *California Institute of Technology*, July 1991.
- “The Federal Energy Regulatory Commission’s Proposed Policy Statement on Gas Inventory Charges (PL-89-1-1000),” *Energy and Environmental Policy Center*, Harvard University, Discussion Paper E-89-11, July 1989.
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- “Conservation Subsidies: The Economist’s Perspective,” with Suellen Curkendall, *Electric Potential*, Vol. 2, No. 3, May/June 1986.
- “Our Nation’s Gas and Electric Utilities: Time to Decide,” with R. Shaughnessy, *Public Utilities Fortnightly*, December 3, 1981.
- “Is There a Free Lunch in the Northwest? (Utility-Sponsored Energy Conservation Programs),” with R. Shaughnessy, *Public Utilities Fortnightly*, December 1980.
- “Opportunities for Canadian Energy Policy,” with M. Reinbergs, *Journal of Business Administration*, Vol. 10, Fall 1978/Spring 1979.
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