

**LON W. HOUSE, Ph.D.**

***Water and Energy Consulting***

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**SUMMARY**

Dr. House has Bachelors, two Masters, and a Ph.D. in Engineering and Economics from U.C.Davis. He is a Certified Energy Manager (CEM) and a Certified Sustainable Development Professional (CSDP) with the Association of Energy Engineers. He taught engineering in Graduate School at U.C. Davis for a number of years and is currently the CoDirector of Hydro Power for the U.C.Davis Energy Institute. He worked for the California Energy Commission as a utility planner, and he was the chief utility planner for the California Public Utilities Commission. In 1990 he went out into the consulting business, starting his own business (Water and Energy Consulting). He has been the Association of California Water Agencies (ACWA) energy consultant since 1992, representing 500 water agencies which are responsible for over 90 percent of the water delivered in California; the Regional Council of Rural Counties (RCRC) energy advisor, representing 30 rural California counties encompassing over one-half of the land area of California; and an energy consultant for the Attorney General of the State of California.

Dr. House has over 20 years experience before the California Public Utilities Commission, almost 30 years before the California Energy Commission, and has testified numerous times California Power Authority, California Independent System Operator, California State Legislature, State Water Resources Control Board, the Federal Energy Regulatory Commission, and the U.S. Senate, as well as in numerous court cases. Dr. House also works for the California Public Utilities Commission as an expert witness on transmission issues and is their water-energy expert, and for the California Energy Commission as a researcher. He is an investment management expert consultant in the water and energy areas for: Gerson Lehman Group-GLG Scholar Program, eWork Markets, Price Waterhouse-Vantage Marketplace, Roundtable Group, Standard & Poor's-Society of Industrial Leaders and DeMatteo Monness.

Dr. House's expertise is in the water-energy nexus. He authored the definitive research report on water related peak demand in California: "*Water Supply Related Electricity Demand in California*", Demand Response Research Center/California Energy Commission, Lawrence Berkeley National Laboratory, LBNL-62041, December 2006, and several recent articles: "*Will Water Cause the Next Electricity Crisis?*" in: *Water Resources Impact*, Vol. 9, No. 1, January 2007, published by American Water Resources Association, and "*Public Versus Private Customer Perspectives on Participation in Demand-side Programs*" *Strategic Planning for Energy and the Environment*, Volume 27, No. 3, Winter 2008, pg 59-66. He has been involved in the assessing, evaluating, and recommending energy efficiency and demand response improvements within a number of

water agencies in California over the last 15 years and was pivotal in getting the water-energy nexus recognized as a critical element in California energy infrastructure by both the CEC and CPUC.

## **EDUCATION**

*Ph.D.* Human Ecology/ University of California at Davis, 1982  
Engineering & Economics

*M.S.* Biology/ Portland State University, 1978  
Environmental Science

*M.A.* Education/Science University of New Mexico, 1976

*B.S.* Biology/Geography University of New Mexico, 1974

## **CERTIFICATION**

Certified Energy Manager (CEM)  
Certified Sustainable Development Professional (CSDP)

## **EMPLOYMENT HISTORY**

2010 - present University of California At Davis  
Energy Institute

Dr. House is the Co-Director of the Hydropower Collaborative for the U.C.Davis Energy Institute, where he is responsible to the supervision and management of all hydroelectric generation activities and is responsible for developing tutorials and courses on hydropower technologies, incentives, policy, and short courses and other technical training and workshops.

1993 - present Founder and President  
Water and Energy Consulting

Dr. House provides expert witness testimony, regulatory representation, economic evaluations, policy directives, and planning functions for selected clients. Dr. House's clients include public agencies, trade organizations, regulatory agencies, and independent power producers. Dr. House is the energy consultant for the Association of California Water Agencies, representing 450 public water agencies and 50 mutual water companies in the areas of legislation, representation before regulatory agencies, and energy and economic analyses; is the energy advisor to the Regional Council of Rural Counties, representing 30 rural counties in California; and has been an energy consultant to the

Attorney General of the State of California since 2004 and works for the California Public Utilities Commission as an expert witness, and for the California Energy Commission as a researcher.

1990 - 1993      Principal Consultant  
HES, Inc.

Dr. House was responsible for projects involving utility planning and analysis, energy regulation, economic assessments and modeling, rate design, and regulatory representation. Dr. House was also responsible for energy efficiency compliance analysis and was the lead technical person for Integrated Resource Planning and the evaluation and assessment of DSM (demand side management) in utility resource plans.

1986 - 1990      Utility Resource Planner  
California Public Utilities Commission

While at the CPUC, Dr. House held the lead technical position for special projects. He was responsible for developing and coordinating team projects that involved modelers, engineers, economists, attorneys, and rate specialists. This assignment involved recommending policy positions to Commission management, preparing Commission reports, and presenting public testimony.

1983 - 1985      Adjunct Lecturer - Department of Applied Science  
College of Engineering  
University of California at Davis

Dr. House taught upper division and graduate level courses in energy planning, energy modeling, energy generation technologies and options, energy policy, energy economics, and energy project financing.

1984-1986      Public Utility Regulatory Program Specialist I  
California Public Utilities Commission

While holding this position at the CPUC, Dr. House was responsible for detailed analysis of California investor-owned utilities' planning and operation. He was an operations and planning witness in general rate cases, energy cost adjustment clauses, certificates for public convenience and necessity, and special projects.

1981-1984      Electric Generation Systems Specialist  
California Energy Commission

While at the CEC, Dr. House performed analysis of utility production cost, system reliability, resource planning and finances. His efforts were concentrated in the areas of assessment of utility resource plans, evaluation of resource alternatives, utility operations, and financial evaluations.

1980-1981 Energy Analyst  
Technology Assessments Office  
California Energy Commission

Dr. House analyzed economic, environmental, political and technical aspects of energy generation and conservation options while holding this position. This assignment included developing an analytical methodology for assessing energy conservation options and comparing them with generating resource options.

1979-1980 Staff Scientist  
Lawrence Berkeley Laboratory

Dr. House was responsible for the development of a macro-economic model that assessed the health and financial impacts of investments in utility generation and conservation technologies.

## **PUBLICATIONS/ARTICLES**

*“Time-of-Use Water Meter Impacts on Customer Water Use”*, California Energy Commission, *in press*.

*“Smart Meters and California Water Agencies: Overview and Status”*, California Energy Commission, CEC-500-2010-008, March 2010.

*“Automatic Meter Reading (AMR)/Advancing Metering Infrastructure (AMI) Opportunities in Water”* Sigma XI Year of Water White Papers, available at: <http://www.sigmaxi.org/programs/issues/whitepapers.shtml>, October 2008.

*“Public Versus Private Customer Perspectives on Participation in Demand-side Programs”* Strategic Planning for Energy and the Environment, Volume 27, No. 3, Winter 2008, pg 59-66.

*Will Water Cause the Next Electricity Crisis?* in Water Resources Impact, Vol. 9, No. 1, January 2007. Published by American Water Resources Association.

*“Water Supply Related Electricity Demand in California”*, Demand Response Research Center/California Energy Commission, Lawrence Berkeley National Laboratory, LBNL-62041, December 2006.

(With M. Henwood and D. Branchcomb), *A Strategy for Least Cost Utility Operations in Light of the Clean Air Act: Consideration of Emissions Costs in Commitment and Dispatch Decisions*, Proceedings of Power-Gen '91, December 1991.

A Utility Resource Planning Primer, California Public Utilities Commission, Division of Ratepayer Advocates, April 1989.

(With other authors), Report to the California Legislature on the Implementation of Assembly Bill 475 (1985): Production Cost and Financial Planning Computer Models Used by California Utilities, California Public Utilities Commission, December 1986.

Minimum Oil and Gas Generation Levels in California Utilities, California Energy Commission, P300-82-015, 1985.

*Using Production Cost Models to Predict Emissions from Utility Power Plants: A Case Study*, Air Pollution Control Association Proceedings, January 1985.

*Progress of Wind Energy Developments in California*, Alternative Energy Sources VI, Vol. 3, 1985.

*Avoided Cost Payment Options: Which is Best for Windfarms?*, Wind Power Digest, Summer 1984.

*Windfarm Avoided Cost*, California Energy Commission News and Comment, Fall 1983.

*Reliability Impacts of Wind-Generated Electricity on California Utilities*, Reliability of Power Systems, Institute of Electrical Engineers, September 1983.

*The Integration of Wind and Solar Technologies into the Electric Utility Grid: A Review of the Issues*, The Renewable Challenge, American Institute of ISES, June 1982.

(With E. Amir), *Economic Assessment of Geothermal Plant Efficiency Improvements in the PG&E System*, Proceedings of the Geothermal Resources Council Annual Meeting, October 1982.

(With E. Amir and P. Gertner), *Economic Assessments of Residential Retrofit Electricity Conservation Measures: Consumer and Utility Perspectives*, California Energy Commission, P300-81-024, 1981.

*Wind and Solar Electricity Producing Technologies Impact on Electric Utilities*, California Energy Commission, P300-81-024, 1981.

(With other authors), *Environmental Assessment for Consumer Products Efficiency Standards Program*, U.S. Government Printing Office, DE/CS/20315-T1, 1980.

## **EXPERT TESTIMONY**

U.S. Senate

“Dr. House Response to Committee Questions on Energy and Natural Resources Hearing- March 10, 2009”, March 31, 2009.

“Testimony of Lon W. House, Ph.D.” Energy and Natural Resources Committee, March 10, 2009.

“Embedded Energy in Water – Briefing for Senate and House Staffers”, The Nexus of Energy and Water Series. February 13, 2009.

Federal Energy Regulatory Commission

- “Motion To Intervene And Comments Of Water And Energy Consulting On Behalf Of Black Mesa Trust And To’Nizhoni Ani” Docket No. ER04-316-000, January 14, 2004.

- "Regional Council of Rural Counties (RCRC) Comments on the FERC Hydroelectric Licensing Notice of Proposed Rulemaking RM02-16-000" Docket No. RM02-16-000, April, 2003.

- "Association of California Water Agencies (ACWA) Comments on the FERC Hydroelectric Licensing Notice of Proposed Rulemaking RM02-16-000" Docket No. RM02-16-000, April, 2003.

- "ACWA Comments on Standard Market Design" Docket Project No. RM01-12-000, November, 2002.

- "Motion to Intervene and Comments of the Regional Council of Rural Counties" Docket Project No. 77 et al., January, 2002.

- "Association of California Water Agencies (ACWA) Comments on Market Order Proposing Remedies for California Wholesale Electric System" Docket No. EL00-95-000, November 21, 2000.

- "Regional Council of Rural Counties (RCRC) Comments on Market Order Proposing Remedies for California Wholesale Electric System" Docket No. EL00-95-000, November 21, 2000.

- "The Association of California Water Agencies (ACWA) Motion to Intervene and Comments", Palm Springs Request for Wheeling, Docket No. TX96-7-000, March 27, 1996.

- "The Association of California Water Agencies (ACWA) Reply to PG&E Supplemental Comments", Stranded Cost NOPR, Docket No. RM94-7-001, February 27, 1996.
- "The Association of California Water Agencies (ACWA) Comments in RM 95-16-000", Hydro Relicensing NOPR, Docket No. RM95-16-000, January 5, 1996.
- "The Association of California Water Agencies (ACWA) Reply Comments in RM 95-8-000", Transmission NOPR, Docket No. RM 95-8-000, October 4, 1995.
- "The Association of California Water Agencies (ACWA) Comments in RM 95-8-000", Transmission NOPR, Docket No. RM 95-8-000, August 7, 1995.
- "Response to Proposed Rulemaking on Charges and Fees for Hydroelectric Projects", Docket No. RM 93-7-000, April 4, 1994.

#### State Water Resources Control Board

- "Testimony of Dr. Lon W. House"- Reconsideration of D.1644, Yuba River Water Rights Decision, June 5, 2003.
- "Impact of Bay-Delta Water Quality Standards on California's Electric Utility Costs", Water Quality Control Plan for the Bay-Delta Estuary, October 19, 1994.
- "Capacity, Production Cost, and Emissions Impact of Proposed Department of Fish and Game Temperature and Stream Flow Requirements on the Lower Yuba River" Lower Yuba River Hearing, February 10-13, 1992, filed January 21, 1992.

#### United States District Court For Northern California

- *People of California vs. Reliant Energy, et al.*, Expert Report of Lon W. House, Ph.D. - "Environmental Regulations on California Merchant Power Plants: 2000-2001", case C-02-1788-VRW, April 2004.

#### State Board of Equalization

- " PG&E Petition for Reassessment of Unitary Value", Regional Council of Rural Counties, September 15, 2000.

San Joaquin Valley United Air Pollution Control District

- "APCD Rule 47 Comments", September 23, 2010.
- "Internal Combustion Engine BACT Permitting", September 8, 1998.

Superior Court of the State of California: County of Sacramento

- *California Sportfishing Protection Alliance v. State Water Resources Control Board, et. al.*, "Declaration of Lon W. House in Opposition to Petitioner's Motion for Preliminary Injunction - Electricity Cost and Residual Emission Impacts of California Sportfisheries Protection Alliance Proposed Flows for the Lower Yuba River: December 1991 to October 1992", December 20, 1992.

Superior Court of the State of California: County of Humboldt

- *Fairhaven Power Company v. Pacific Gas & Electric Company*, "Assessment of Fairhaven Power Company's Claim for Capacity Payments from Pacific Gas and Electric Company for May 1992", April 1993.

California Public Utilities Commission

- R10-05-004, "Comments on the ACR", July 2010.
- A.08-11-005, "Opening Brief of PACE (Protect Agricultural Communities Environment)", March 2010.
- A.08-03-008, "Reply Comments of ACWA – Including In-Conduit Hydro in SGIP", January 2010.
- A.08-11-005, "Opening Testimony of PACE (Protect Agricultural Communities Environment)", July 2009.
- A.06-08-010, "Report On The Sunrise Powerlink", Phase 1 Rebuttal, June 2007.
- A.06-08-010, "Report On The Sunrise Powerlink", Phase 1 Testimony, Volume 5 of 5, May 2007.
- A.05-06-006, et al., "Response to Utilities Joint Motion", November 2006.
- A.05-06-006, et al., "Proposals in Response to Commissioner Peevey's ACRs on Demand Response", September 2006.



- A.05-04-015/I,05-06-041, "Tipping Point Analysis and Attribute Assessment of DPV2", December 2005.
- A.05-06-006, et al., "Petition to Intervene and Rebuttal Testimony of the Association of California Water Agencies", October 2005.
- R.02-05-046, "Final Oral Arguments", December 2004.
- R.02-06-001. "Association of California Water Agencies (ACWA) Comments on Utility Filings Concerning Working Group 2 Programs and Related Issues", November 2004.
- R.02-05-046, "WEC Comments on Proposed Decision", November 2004.
- R.02-05-046, "Opening Brief", August 2004.
- R.02-05-046, "WEC Brief on TURN Confidential Exhibit (Exhibit #28C)", July 2004.
- R.02-05-046, "WEC Rebuttal Testimony in Response to March 9, 2004 ALJ Ruling", June 2004.
- R.02-05-046, "Water and Energy Consulting Concurrent Rebuttal", May 2004.
- R.02-05-046, "The Value And Impact Of Mohave And The Solar Option - WEC Supplemental Testimony in Response to March 9, 2004 ALJ Ruling", May 2004.
- R.02-05-046, "WEC Prehearing Conference Statement", February 2004.
- R.03-09-029, "Opening Comments of the Association of California Water Agencies", November 2003.
- R.02-05-046, "WEC Reply Supplemental Testimony", October, 2003
- I.02-04-026, "Joint Reply Brief Regarding Land Conservation Commitment and Environmental Stipulation", October 2003.
- R.02-05-046, "WEC Supplemental Testimony", October 2003.
- I.02-04-026, "The Association of California Water Agencies (ACWA) Rebuttal Comments", September 2003.
- I.02-04-026, "The Association of California Water Agencies (ACWA) Opening Comments on the Proposed Settlement", August 2003.
- I.02-04-026, "Joint Testimony of Lon House and Steve Rothert – Recommended Clarifications of the Land Conservation Commitment", Opening Comments of the Regional Council of Rural Counties, the Association of California Water Agencies, the California Hydropower Reform Coalition, and Environmental Defense, August 2003.
- I.02-04-026, "The Regional Council of Rural Counties (RCRC) Opening Comments", August 2003.

- A.02-05-046, “WEC Filing of Significant Additional Information”, August 2003.
- A.02-05-046, “Water & Energy Consulting Briefing Testimony on Water Issues”, July 2003.
- R.01-05-047, “The Regional Council of Rural Counties Supplemental Reply Brief on ALJ Terkeurst Ruling Setting Aside Submission and Requiring Additional Testimony”, May 2003.
- A.02-05-046, “Water & Energy Consulting Concurrent Rebuttal Testimony”, May 2003.
- R.02-06-001, “The Association of California Water Agencies Comments on Proposed Decision of Administrative Law Judge (ALJ) Carew”, April 2003.
- A.02-05-046, “Water & Energy Consulting, Hopi, and Dine' Testimony”, March 2003.
- R.02-06-001, “The Association of California Water Agencies Motion to Intervene And Comments on Working Group 2 Reports”, December 2002.
- R.02-05-004, “Petition to Intervene of The Association of California Water Agencies (ACWA)”, November 2002.
- R.02-05-046, “Petition to Intervene of Water and Energy Consulting for Local Hopi Sinom and Dineh People”, November, 2002, and “Notice of Intent to Claim Intervenor Compensation of Water and Energy Consulting”, November 2002.
- R.01-05-047, “The Regional Council of Rural Counties Reply Brief on Well Pumping Baseline Allowances”, November 2002.
- R.01-05-047, “The Regional Council of Rural Counties Opening Brief on Well Pumping Baseline Allowances”, October 2002.
- I.02-04-026, “The Regional Council of Rural Counties Reply Comments”, May 2002.
- R.01-05-047, “The Regional Council of Rural Counties Testimony on Well Pumping Baseline Allowances”, May 2002.
- R.01-05-047, "The Regional Council of Rural Counties Legal Brief on Threshold Issues – Can the Commission Include Other Variables in Baseline Determination”, February 2002.
- A.98-07-003, “Association of California Water Agencies Comments on the Motion of Southern California Edison Company (U 338-E) To Immediately Implement Historic Procurement Charge And Related Testimony”, January 2002.
- R.02-01-011, “Association of California Water Agencies Comments on the Draft Decision of ALJ Barnett Suspending Direct Access”, January 2002.
- A.98-07-003, A.98-07-006, A.98-07-026, “Response of the Association of California Water Agencies Utility Service Authority to Assigned Commissioner’s Ruling That Direct Access Contracts And Agreements Be Submitted”, December 2001.

- "Protest of Pacific Gas & Electric Company Advice Letter 2167-E and SDG&E Advice Letter 1369-E, Filed October 12, 2001", October 2001.
- A.98-07-003, A.98-07-006, A.98-07-026, "Motion of The Association of California Water Agencies To Suspend Commission Consideration of Draft Decision Ending Direct Access In Light Of New Information", September 2001.
- A.98-07-003, A.98-07-006, A.98-07-026, "Comments Of Laguna Irrigation District and ACWA-USA on Assigned Commissioner's Ruling Regarding Comments on Certain Direct Access Issues", September 2001.
- R.01-05-047, "The Regional Council of Rural Counties (RCRC) Testimony on Baseline Allowances", August 2001.
- A.00-11-038, "Comments of the Association of California Water Agencies on the Draft Agreement Between the Commission and the California Department of Water Resources" July 2001.
- A.98-07-003 , "Association of California Water Agencies Comments on the Proposed Decisions of ALJ Barnett and Commissioner Bilas", June 2001.
- R.00-01-005/R.00-11-038, "Regional Council of Rural Counties (RCRC) Motion to Intervene", June 2001.
- R.00-10-002, "Regional Council of Rural Counties (RCRC) Motion to Intervene and Testimony on Energy Division's Report on Interruptible Programs and Rotating Outages", February 2001.
- "RCRC Protest of Pacific Gas & Electric Company Advice Letter 2072-E, filed January 9, 2001 (Emergency Load Reduction Contingency Plan)", January 2001.
- "RCRC Protest of Pacific Gas & Electric Company Advice Letter 2053-E, Net Metering", November 2000.
- "ACWA Protest of Southern California Edison Advice Letter 1457-E ", June 2000.
- A.99-09-053, "Protest of the Association of California Water Agencies on the Application of Pacific Gas & Electric Company to Auction Hydroelectric Assets", October 1999.
- R.94-04-031/I.94-04-032, "Reply Comments of the Association of California Water Agencies on the Motion of the Independent Energy Producers et al. for an Order Approving PX based Pricing Pursuant to the One-time Election of Qualifying Facilities", September 1999.
- R.94-04-031/I.94-04-032, "Comments of the Association of California Water Agencies in Support of Motion of the Independent Energy Producers et al. for an Order

Approving PX based Pricing Pursuant to the One-time Election of Qualifying Facilities", July 1999.

- A.98-05-022/A.98-05-014, "Testimony of the Association of California Water Agencies on Market Valuation of Retained Assets", March 1999.

- A.98-06-018, "Association of California Water Agencies Letter to Commissioner Duque", February 1999.

- A.98-05-022/A.98-05-014, "Prehearing Comments of the Association of California Water Agencies", January 1999.

- A.98-05-022/A.98-05-014, "Request of the Association of California Water Agencies for the Establishment of an Order Instituting Investigation/Rulemaking Regarding the Disposal of Utility Hydroelectric Assets and Associated Lands in the Deregulated California Electricity Market", December 1998.

- A.98-05-022, "Motion of the Association of California Water Agencies for Leave to File Late Comments on Pacific Gas and Electric Company's Proposed Scoping Memo and Ruling of Assigned Commissioner", November 1998.

- A.96-12-009, A.96-12-011, A.96-12-019, "Response of the Association of California Water Agencies to the Petition of New Energy Ventures for a Modification of Decision No. 97-08-056", February 1998.

- R.94-04-031/I.94-04-032, "ACWA Comments Proposed Decision of ALJ John S. Wong (R.94-04-031/I.94-04-032)", March 1996.

- R.94-04-031/I.94-04-032, "ACWA Comments on Utility Transition Cost Scoping Workshop in R.94-04-031/I.94-04-032", May 1996.

- R.94-04-031/I.94-04-032, "Comments on Report of the Interim PG&E Competition Transition Charge Collaboration", May 1996.

- R.94-04-031/I.94-04-032, "Proposed Methodology for Establishing an Interim Competition Charge for Pacific Gas & Electric Company", April 1996.

- R.94-04-031/I.94-04-032, "ACWA Comments on PG&E's Emergency Motion for Adoption of an Interim CTC Procedure to Departing Customers", February 1996.

- "ACWA Protest of PG&E Advice Letter 1561-E, Edison Advice Letter 1145-E, and SDG&E Advice Letter 977-E", February 1996.

- R.94-04-031/I.94-04-032, "ACWA Comments on PG&E's Emergency Motion for Adoption of an Interim CTC Procedure to Departing Customers", February 1996.

- R.94-04-031/I.94-04-032, "ACWA Petition for Modification of Decision 95-12-063", January 1996.
- R.94-04-031/I.94-04-032, "Association of California Water Agencies (ACWA) Comments on the MOU", October 1995.
- R.94-04-031/I.94-04-032, "Association of California Water Agencies (ACWA) Opening Comments on the Electric Industry Restructuring Proposals", July 1995.
- A.93-12-025/I.94-04-002, "ACWA Testimony on Proposed Edison Rate Schedule TOU-PA-3", Southern California Edison General Rate Case, June 1995.
- PG&E Advice 1498-E, "Protest of PG&E Advice Letter 1498-E (Proposed Schedule E-PS)", May 1995.
- A.93-12-029/I.94-04-003, "Brief of the Association of California Water Agencies", Southern California Edison Performance Based Ratemaking Proceeding, January 1995.
- A.84-06-014/A.85-08-025, "ACWA Protest of Division of Ratepayer Advocates' Petition for Modification of D.93-03-075", Diablo Canyon Pricing Mechanism, October 1994.
- R.94-04-031/I.94-04-032, "Comments of Eastside Power Association on the Need for Direct Access", Deregulation of Electric Utilities Proceeding, October 1994.
- A.93-12-029/I.94-04-003, "Review of Edison's Historic Rates and Prognosis for Future Rate Increases", Southern California Edison Performance Based Ratemaking Proceeding, September 1994.
- R.94-04-031/I.94-04-032, "Equity, Environmental, Public Policy Objectives in the Deregulation of California's Electric Utilities", Deregulation of Electric Utilities Proceeding, June 1994.
- R.94-04-031/I.94-04-032, "Deregulation of California's Electric Utilities: Comments and Observations", Deregulation of Electric Utilities Proceeding, May 1994.
- I.89-07-004/I.90-09-050, "ACWA Comments on Motion for *Ex Parte* Order for Award of Final Standard Offer 4 Contracts", Biennial Resource Plan Update, May 1994.
- Docket I.D. E19054, "ACWA's Second Set Of Comments on Electric Services Industry", August 1993.
- "Comments on Regulatory Reform and Ratemaking for the California Electric Utilities" Division of Strategic Planning Comments Phase, March 1993.

- A.91-11-036, "Reply Brief of the Association of California Water Agencies - Electric Rate Design" Pacific Gas and Electric Company General Rate Case, Test Year 1993, December 1992.

- A.92-04-001, "Prepared Testimony of Lon W. House on Pacific Gas and Electric Company's IER, O&M Adder, and ERI for Forecast Year 1993", Pacific Gas and Electric Company 1993 Energy Cost Adjustment Clause, July 1992.

- R.91-08-003/I.91-08-002, "Comments on BRPU Avoided Costs to be Used to Evaluate DSM", Demand-Side Management Order Instituting Investigation/Rulemaking, October 1991.

- A.89-07-004, "Uncertainty Associated With Significant Reliance on DSM" in "Prepared Testimony of Henwood Energy Services, Inc." Biennial Resource Plan Update Proceeding, September 1991.

- A.89-07-004, "Gas Bias of FSO4" and "Critique of SDG&E's Proposal" in "Prepared Testimony of Henwood Energy Services, Inc." Biennial Resource Plan Update Proceeding, September 1990.

- A.88-12-035, "Resource Planning and Production Cost Impacts", Southern California Edison Company Proposal to Merge with San Diego Gas and Electric Company, February 1990.

- A.88-12-005, "Energy Resources Policy and System Modeling Report for the Pacific Gas and Electric Company General Rate Case: Test Year 1990", February 1989.

- A.88-04-057, "Forecast Report-Pacific Gas and Electric Company Energy Cost Adjustment Clause", June 1987.

- A.86-12-047, "Analysis of Demand Side Management Programs for the Southern California Edison Company General Rate Case: Test Year 1988", May 1987.

- A.82-04-044, (et al), "Testimony of the Public Staff Division on Utility Resource Plans", Consolidated Proceedings for the Revision of Long and Short-Run Standard Offers, April 1987.

- A.86-07-041, "Analysis of 1987 Residential Conservation Financing Program of Southern California Edison Company", Edison General Rate Case, November 1986.

- A.85-12-050, "Long Run Marginal Cost", Pacific Gas and Electric Company 1987 General Rate Case, April 1986.

- A.82-04-044 "Prepared Testimony of the Public Staff Division", Phase II of the Proceeding to Develop a Long Run Standard Offer for Cogenerators and Small Power Producers, January 1986.

- A.82-04-044, "Modeling, Assumptions, and Implementation of Methodology", Phase I of the Proceeding to Develop a Long Run Standard Offer for Cogenerators and Small Power Producers, June 1984.

#### California Power Authority

- "Association of California Water Agencies Comments on the Draft Energy Resource Investment Plan of the California Consumer Power and Conservation Financing Authority", February 8, 2002.

#### California Independent System Operator

- "CAISO Initiative on Non-Generator Resources in California ISO Ancillary Services Markets", September 15, 2009.

#### California Energy Commission

- Docket #09-IEP-1G, "Water Storage as Energy Storage Opportunities in California", April, 2009.

- Docket #08-DR-01, "Water Agency Comments on Rate Design, Incentives, Market Integration", June 2008.

- Docket 08-IEP-1, "ACWA Comments on 2009 Integrated Energy Policy report", June 2008.

- Docket #08-DR-01, "Smart Grid Applications to Water Agencies", April 2008.

- Docket #04-IEP-1H, "ACWA Comments on Water-Energy Relationship", June 2005.

- Docket #04-IEP-1H, "Summary of the Association of California Water Agencies Energy Committee Meeting and Discussion with The California Energy Commission", April 2005.

- Docket #04-IEP-1H "Demand Response Potential", April 2005.

- Docket #04-IEP-1H, "Water-Energy Relationships", January 2005.

- Docket #03-IEP, "Committee Hearings on Scope of 2005 Integrated Energy Policy Report", August 2004.
  
- Docket #02-IEP-01, "California Hydroelectric Background Information", June 2003.
  
- Docket #02-IEP-01, "Comments of The Regional Council of Rural Counties (RCRC) On *Draft Comparative Cost of California Central Station Electricity Generation Technologies*", February 2003.
  
- Docket #99-CEO-1, "Comments of the Association of California Water Agencies and the Association of California Water Agencies Utility Service Agency on Assessment of Supply Adequacy in California", October 1999.
  
- Docket #96-REN-1890, "Association of California Water Agencies Comments on Committee Draft Guidelines for the Renewable Technology Program for Hearing December 11, 1997", December 1997.
  
- Docket #96-REN-1890, "Association of California Water Agencies Comments on Staff Draft of the Guidebook for the Renewable Technology Program for Hearings October 16, 1997", October 1997.
  
- Docket #96-REN-1890, "Association of California Water Agencies Comments on Committee Draft Policy Report on AB 1890 Renewables Funding", February 1997.
  
- Docket #96-REN-1890, "ACWA Comments for Commission Hearing on Renewables Certification Criteria", November 1996.
  
- Docket #96-REN-1890, "Comments on En Banc Commission Hearing on Renewables", October 1996.
  
- Docket #93-ER-94, "ACWA Comments in Response to the October 11 Committee Order on Policy Analysis - Deregulation of the Electric Utilities in California", October 1993.
  
- Docket #90-ER-92, "Demand-Side Management Uncertainty", February 1992.
  
- Docket #90-ER-92, "Uncommitted Demand-Side Management Assumptions and Projections", November 1991.
  
- Docket #90-ER-92, "DSM Evaluation Methodology and Verification Needs", October 1991.
  
- Docket #87-ER-7, "Iterative Cost Effectiveness Resource Plan Methodology", November 1989.



- Docket #85-CFM-5, "Minimum Oil and Gas Generation Levels in California Utilities", June 1984.

- Docket #83-CFM-5, "Avoided Cost Methodologies Illustrated", April 1984.

## **PROFESSIONAL AND TECHNICAL SOCIETIES**

Association of Energy Engineers (AEE) - Senior Member

Sigma Xi - The National Research Honor Society

American Society of Civil Engineers

## **RECOGNITION**

Who's Who Among Young Men in the West

Who's Who in Science and Engineering

International Directory of Distinguished Leadership

Who's Who in Natural Gas and Power

Petroleum Supply Americas

## **REPRESENTATIVE UTILITY CLIENTS**

Florida Power and Light - Evaluation of Purchase of Hydroelectric Assets

Modesto Irrigation District - Value and Allocation of Stranded Costs

Imperial Irrigation District - Deregulation Planning, Evaluation of Contract Options

Eastside Power Association - Transmission Addition Evaluations, Negotiations

American Electric Power - Analysis of Dynamic Operating Costs

Central and South West Services - Integrated Resource Planning

Pacific Gas and Electric - Compressed Air Energy Storage Evaluation, Wind Generation Impacts on Utility Operation

San Diego Gas and Electric - Compliance with Air Pollution Emission Requirements

Northern California Power Agency - Integrated DSM/Supply-side Bid; Evaluation of DSM Programs

Cajun Electric Cooperative - Strategic Planning

Central Louisiana Electric - Operation of a Jointly Owned Generation Facility

## **REPRESENTATIVE PRIVATE CLIENTS**

Attorney General: State of California – Energy Expert in Antitrust Cases Against Generators

Regional Council of Rural Counties - Energy Advisor, Regulatory Representation

Association of California Water Agencies (ACWA) - Energy Consultant, Regulatory Representation, Advisor to the ACWA Utility Service Agency  
California Public Utilities Commission - Evaluation of Utility Generation Options, transmission expert witness, water energy expert  
California Energy Commission – researcher  
Energy Storage Partners - Regulatory Representative, Power Marketing  
Friant Power Authority - Utility Negotiations, Due Diligence  
Expert Witness: Mitchell, Dedekam & Angell,  
Law Offices of Daniel F. Gallery,  
Bartkiewicz, Kronick & Shanahan,  
Law Offices of Beatrice Snider