0000069454

ORIGINAL

32D

IE ARIZONA CORPORATION COMMISSION

RECEIVED

2002 NOV 12 A 10: 28

AZ CORP COMMISSION
DOCUMENT CONTROL

WILLIAM A. MUNDELL
Chairman
JIM IRVIN
Commissioner
MARC SPITZER
Commissioner

IN THE MATTER OF THE GENERIC PROCEEDINGS CONCERNING ELECTRIC RESTRUCTURING ISSUES.	Docket No. E-00000A-02-0051
IN THE MATTER OF ARIZONA PUBLIC SERVICE COMPANY'S REQUEST FOR A VARIANCE OF CERTAIN REQUIREMENTS OF A.A.C. R14-22-1606.	Docket No. E-01345A-01-0822
IN THE MATTER OF THE GENERIC PROCEEDING CONCERNING THE ARIZONA INDEPENDENT SCHEDULING ADMINISTRATOR.	Docket No. E-00000A-01-0630
IN THE MATTER OF TUCSON ELECTRIC POWER COMPANY'S APPLICATION FOR A VARIANCE OF CERTAIN ELECTRIC COMPETITION RULES COMPLIANCE DATES.	Docket No. E-01933A-02-0069

DIRECT TESTIMONY OF

DAVID BERRY

LAND AND WATER FUND OF THE ROCKIES

November 12, 2002

Arizona Corporation Commission
DOCKETED

NOV 12 2002

DOCKETED BY CAR

Direct Testimony of David Berry

Land and Water Fund of the Rockies

Docket No. E-00000A-02-0051 et al.

TABLE OF CONTENTS

Introduction	1
Demand Side Management	2
Environmental Risk Management	6
Comments on Staff's Report: Public Participation	11
Comments on Staff's Report: Environmental Information	12
Comments on Staff's Report: Price Risk	13
Response to Staff's Position on DSM and Environmental Risk Management	13

LIST OF EXHIBITS

Qualifications of David Berry	DB-1
Proposed Steps to Commission Adoption of a DSM Policy	DB-2
Proposed Steps to Commission Adoption of an Environmental Risk Management Policy	DB-3

Introduction

Q. Please state your name and business address.

A. My name is David Berry. My business address is Post Office Box 1064, Scottsdale, Arizona 85252-1064.

Q. By whom are you employed and in what capacity?

A. I am Senior Policy Advisor with the Land and Water Fund of the Rockies (LAW Fund).

Q. Please describe the LAW Fund.

A. The LAW Fund is a regional environmental law and policy center serving the Rocky Mountain and Desert Southwest states, headquartered in Boulder, Colorado. The LAW Fund's Energy Project promotes the development of clean energy power production technologies, energy efficiency, renewable resources, and other measures that help to minimize the environmental impacts of meeting the demand for energy services in an economically and politically acceptable fashion. The LAW Fund has been involved in proceedings before the Commission for about ten years.

Q. What is the purpose of your testimony in this proceeding?

A. I am requesting that the Commission set up processes to incorporate demand side management and environmental risk management in future competitive solicitations. In addition, I am proposing several implementation measures for the initial competitive solicitation process.

Q. What are your professional qualifications related to these matters?

A. A summary of my qualifications is provided in Exhibit DB-1.

Demand Side Management

Q. What is Demand Side Management (DSM)?

A. The Office of Energy Efficiency and Renewable Energy of the U.S. Department of Energy defines DSM as "...actions taken on the customer's side of the meter to change the amount or timing of energy consumption. Utility DSM programs offer a variety of measures that can reduce energy consumption and consumer energy expenses."

Q. What is the public interest in DSM?

A. Cost effective DSM is a resource which can help meet the demand for electric energy services at lower cost than conventional generation resources. The public interest in DSM is to ensure that consumers' electric energy service bills are as low as possible. If cost effective DSM measures are not pursued, consumers will pay more for electric energy services than necessary. In addition, because DSM displaces electricity and generally has a stable cost, it helps consumers and utilities avoid fluctuations in the price of electricity and natural gas used to generate electricity. Further, DSM may reduce or eliminate the need for more transmission or distribution capacity, may avoid transmission constraints, and can reduce the environmental impacts of electricity consumption, including compliance costs associated with future environmental regulation.

Q. Has the Commission expressed support for DSM?

A. Yes. The Recommended Decision on Springerville Units 3 and 4 (which the Commission adopted in relevant part at its October 29, 2002 Open Meeting) states that "We encourage TEP and all Arizona utilities to practice energy efficiency and to implement energy efficiency measures when feasible and cost effective, not only as a means of pollution control, but also as a means of cost containment, both of which we support." Track B provides a means for the Commission to act on that support.

Q. What evidence is there that DSM achieves savings in kW and kWh?

A. There have been numerous studies and DSM programs that conclude that DSM measures can reliably reduce power and energy consumption and that indicate how such reductions can be achieved.[1]

Q. Are Arizona utilities currently conducting large scale DSM programs?

A. Apparently not. In response A4 to Harquahala Generating Company's first set of data requests, Arizona Public Service Company (APS) reported that it did not include any DSM in its forecasts. In response to question A3, APS stated that no DSM funding was authorized after 1999. In response to the same questions, Tucson Electric Power Company (TEP) provided a forecast of 6 to 7 MW of DSM per year but no MWh savings due to its Guarantee Home Program. (TEP did not explain the absence of energy savings). However, huge opportunities for cost effective DSM remain.[2]

A. How can DSM fit into the Commission's Track B process?

A. Track B is concerned with developing a competitive procurement process for APS and TEP to obtain power to serve their ratepayers. Cost effective DSM would be a greater benefit for ratepayers than some purchases of electricity from the wholesale

---

[1] Among these studies are the following: Pacific Northwest Laboratory, *Industrial Demand Side Management: A Status Report*, prepared for the Office of Energy Efficiency and Renewable Energy, U.S. Department of Energy, May 1995, Report No. PNL-10567. Arizona Corporation Commission, Staff Reports on Resource Planning, 1990, 1993, and 1996. Charles Goldman, Joseph Eto, and Galen Barbose, "California Customer Load Reductions during the Electricity Crisis: Did They Help to Keep the Lights On?" Lawrence Berkeley National Laboratory, LBNL-49733, May 2002. Connecticut Energy Conservation Management Board, *Report of the Energy Conservation Management Board*, Year 2001 Programs and Operations, 2002. Kim Clark and David Berry, "House Characteristics and the Effectiveness of Energy Conservation Measures," *Journal of the American Planning Association*, Summer 1995: 386-396. Kim Clark and David Berry, "Targeting Residential Conservation Measures," *Home Energy*, September/October 1994: 14-15. Howard Geller, "Utility Energy Efficiency Programs and Systems Benefit Charges in the Southwest," Southwest Energy Efficiency Project, 2002. Marilyn Brown et al. *National Impacts of the Weatherization Assistance Program in Single-Family and Small Multifamily Dwellings*, Oak Ridge National Laboratory ORNL/CON-326, 1993. E. Gregory McPherson, "Evaluating the Cost Effectiveness of Shade Trees for Demand-Side Management," *The Electricity Journal*, November 1993: 57-65.

[2] See Southwest Energy Efficiency Project (SWEEP), *The New Mother Lode: The Potential for More Efficient Electricity Use in the Southwest*, Boulder, CO: 2002.

market. As Track B has developed, DSM resources could be bid, but the emerging competitive solicitation process is not conducive to acquiring DSM in lieu of more expensive conventional generation. For instance, DSM is generally a long term resource while the utilities may seek only short term supply contracts. DSM, with its higher up-front costs and longer life spans, may not be readily comparable to short term power purchases. In addition, the performance-related risks of DSM are very different than the performance-related risks of conventional power supplies and need to be managed differently. Utilities have focused on managing the risks of power purchases. The LAW Fund proposes that the Commission adopt a policy to ensure that cost effective DSM resources are actively sought and acquired.

Q. What should the major features of the Commission's DSM policy be?

A. The DSM policy should include the following features:

- A resource acquisition process separate from competitive solicitations for conventional generation. The separate process would be more attractive to vendors of DSM than would an all-source bidding process.
- Target levels of cost effective DSM kW and kWh savings, considering the costs of DSM and the (avoidable) costs of conventional generation resources.
- DSM implementation time tables for APS and TEP.

Q. How can DSM resources be considered without delaying the Commission's schedule for starting competitive solicitations in Track B?

A. The Commission desires to implement competitive solicitations for wholesale power acquisitions quickly, but setting up effective DSM programs will take time. The LAW Fund does not wish to slow down the initial competitive solicitations undertaken by utilities as a result of Track B. Therefore, I propose that the Commission set up a separate process for developing its DSM policy which would be in place in time for the second and subsequent rounds of competitive solicitations.

Q. Why should the Commission address DSM policy now if that policy would not become effective until after the first round of competitive solicitations?

A. Developing a DSM policy will take time. Staff, utilities, and others need to update their knowledge of DSM, DSM programs in other jurisdictions should be reviewed, costs of DSM programs need to be considered, target levels of DSM (kW and kWh savings) must be established considering avoided costs associated with conventional resources, and program delivery methods must be examined. The DSM policy analysis should start as soon as possible, i.e., in early 2003. The Commission might need about a year to sort through the issues, resulting in an Order by the spring or summer of 2004. Specific utility programs will then have to be developed and reviewed by the Commission. If this process is completed in 2005, it will then be time to address the second cycle of competitive solicitations. That second cycle will require considerable attention from utilities, Staff, and other parties. It would be too burdensome to develop a DSM policy and new competitive solicitation guidelines for conventional resources at the same time. Further, the results of the DSM analysis would be needed as inputs into the competitive solicitation process for conventional resources. Therefore, I recommend that the Commission use the current proceeding to formally start the process of workshops and hearings necessary to implement a DSM policy.

Q. What is your recommendation for how the Commission should proceed so that DSM proposals can be developed and brought to the Commission for its consideration?

A. The Commission should direct Staff to conduct workshops and then request a hearing. Exhibit DB-2 sets forth a process.

Environmental Risk Management

Q. What is the public interest in the environmental aspects of utility resource acquisitions?

A. The public interest in environmental aspects of utility resource acquisitions stems from: a) Commissioners' previous statements on environmental matters; b) the recovery, through rates, of the costs of meeting environmental targets and requirements, including consideration of the allocation of risk of recovering future costs from ratepayers, power suppliers, and utility shareholders; and c) the environmental externalities (such as pollution) of power production imposed on society and the ecology of the State.

Q. What have Commissioners stated regarding environmental matters?

A. In a letter to parties to the present docket, dated July 18, 2002, Commissioner Spitzer wrote, "… the end state of this proposal is a future in which the wholesale electric market is competitive fair, and in which modern, efficient and clean generation replaces aged and highly polluting plants…." (p. 3). Decision No. 65154, regarding Track A, states that, through the competitive solicitation process in track B, "APS and TEP may decide to retire or displace inefficient, uneconomic, environmentally undesirable plants" (p. 23, note 8).

Q. Please illustrate the implications of environmental issues for ratepayers.

A. I will use the example of climate change. With growing evidence that the earth's climate is being altered by emissions of carbon dioxide and other greenhouse gases, including recent recognition of climate change by the White House, it is increasingly likely that the United States will act to stop worsening this situation. Resource acquisition decisions that do not take into account the potential future regulation of carbon dioxide emissions run the risk that the wrong resource choices will be made. The wrong resource choices could include those which have high carbon dioxide emissions causing the utility, power plant owners, and perhaps ratepayers, to pay

more to offset carbon dioxide emissions than the difference in the costs between those resources (without carbon offsets) and alternative resources with lower carbon dioxide emissions. If Arizona utilities lock into generation resources with high carbon dioxide emission rates and the costs of complying with future carbon dioxide regulation are passed on to consumers, the competitive solicitation process could be leading to needlessly high electric rates.

Second, the Commission could approach climate change as a question of good public policy quite apart from whether the federal government will impose carbon regulations. The current scientific consensus on climate change is that climate change could impose large costs on agriculture, businesses, and consumers as they try to adapt to changes in precipitation, temperature, and other weather patterns. The ecological impacts could also be significant. In a report prepared at the request of the Bush Administration, the National Research Council stated that the "U.S. National Assessment makes a strong case that ecosystems are the most vulnerable to the projected rate and magnitude of climate change, in part because the available adaptation options are very limited. Significant climate change will cause disruptions to many U.S. ecosystems, including wetlands, forests, grasslands, rivers, and lakes."[3] The Commission could explicitly address whether the resource choices of the utilities under its jurisdiction are contributing to greater climatic variability and how to foster resource acquisition decisions that are less destructive of the environment.

Utilities may reduce the effect of power generation on climate change by engaging in DSM, fuel or resource substitution, including greater use of renewable resources, sequestration of carbon dioxide and other greenhouse gases, improved heat rates at power plants, and purchase of tradable carbon credits. Each of these responses imposes a cost that might raise a utility's average costs and show up in rate increases.

[3] National Research Council, *Climate Change Science: An Analysis of Some Key Questions*, Washington, D.C.: National Academy Press, p. 20. The reference to the U.S. National Assessment is to: U.S. National Assessment, U.S. Global Change Research Program, "Climate Change Impacts on the United States: The Potential Consequences of Climate Variability and Change," 2001, Cambridge University Press.

DSM responses would, in general, lower ratepayers' energy service bills. The other responses would, in general, tend to raise utility costs. Carbon offset or reduction costs could range from around a few dollars per metric ton of carbon to over $100 per metric ton of carbon.[4] To put these numbers in perspective, a carbon removal or offset cost of $40 per metric ton of carbon ($9.74 per U.S. ton of carbon dioxide) would add about $0.0086 per kWh to the cost of producing electricity at a coal plant and about $0.0038 per kWh to the cost of producing electricity at a natural gas fired combined cycle plant.[5] Rate impacts would be similar, depending on rate treatment by the Commission.

Q. How can Track B serve as a vehicle for achieving environmental improvements?

A. Competitive solicitations arising from Track B will accomplish environmental improvements only by happenstance unless environmental issues are directly addressed by the Commission. In the absence of managing environmental risks, Arizona faces the potential of locking in generation from more carbon-intensive generation resources or dirtier power plants or power plants consuming large volumes of water. The potential impact of not considering these issues at the time of resource acquisition is higher costs in the long run.

---

[4] See, for example: Tellus Institute, *The American Way to the Kyoto Protocol*, prepared for the World Wildlife Find, 2001. Andrew Plantinga, Thomas Mauldin, and Douglas Miller, "An Econometric Analysis of the Costs of Sequestering Carbon in Forests," *American Journal of Agricultural Economics*, November 1999: 812-824. Richard Newell and Robert Stavins, "Climate Change and Forest Sinks: Factors Affecting the Costs of Carbon Sequestration," *Journal of Environmental Economics and Management*, 2000: 211-235. Energy Information Administration, *Analysis of Strategies for Reducing Multiple Emissions from Power Plants: Sulfur Dioxide, Nitrogen Oxides, and Carbon Dioxide*, 2000. Charles Kolstad and Michael Toman, "The Economics of Climate Policy," Resources for the Future Discussion Paper 00-40REV, 2001. Natsource, *Assessment of Private Sector Anticipatory Response to Greenhouse Gas Market Development,* prepared for Environment Canada, 2002. World Resources Institute, Forest and Land-Use Change Carbon Sequestration Projects," www.wri.org/climate/sequester.html.

[5] The assumptions are as follows for a coal plant: a 400 MW coal plant, 190 pounds of carbon dioxide per MMBtu of fuel, a heat rate of 9,253 Btu per kWh, a 90 percent capacity factor, 3.67 pounds of carbon dioxide per pound of carbon, 2240 pounds per metric ton. The assumptions for a gas-fired combined cycle plant are as follows: a 400 MW plant, 117 pounds of carbon dioxide per MMBtu of fuel, a heat rate of 6,639 Btu per kWh, a 70 percent capacity factor, 3.67 pounds of carbon dioxide per pound of carbon, 2240 pounds per metric ton.

Costs are sometimes expressed in dollars per ton of carbon dioxide. As noted above, there are 3.67 pounds of carbon dioxide per pound of carbon.

Q. Which environmental issues does the LAW Fund believe merit the greatest attention in making resource decisions?

A. There are numerous environmental impacts of generating and transmitting electricity. The process I propose (described below) should include as one of its topics the determination of which environmental issues to address. The LAW Fund believes that the following are important: a) air emissions of carbon dioxide, carbon monoxide, sulfur oxides, nitrogen oxides, mercury, and particulates; and b) water usage. The analysis should look at the resources acquired through the competitive solicitation and the utility's entire portfolio. An additional topic to be considered is the extent to which some of these issues are already adequately addressed in existing regulations and in the power plant and line siting review process where the Commission has put more stringent requirements on some new power plants. I also recommend that the Commission order that climate change be included in the final list of environmental impacts to be considered because it is an important issue that has not received the attention it deserves.

Q. How can the Commission's Track B competitive solicitation process take into account environmental issues?

A. The competitive solicitation process adopted by the Commission should explicitly require APS and TEP to take into account the environmental implications of their resource choices, to prudently manage these risks, and to explicitly consider the allocation of risks among ratepayers, power suppliers, and the utility. The solicitation process should also take into account actions by utilities (and their power suppliers) to reduce or offset adverse environmental impacts and it should avoid penalizing utilities and their power suppliers for taking such actions.

Q. How can environmental risk management be considered without delaying the Commission's schedule for starting competitive solicitations in Track B?

A. Recognizing that the Commission desires to implement competitive solicitations for wholesale power acquisitions quickly, and that setting up a workable environmental risk management policy will take time, the LAW Fund does not wish to slow down the initial competitive solicitations undertaken by utilities as a result of Track B. Therefore, the LAW Fund proposes that the Commission set up a process now for developing its environmental risk management policy which would then be applied to the second and subsequent rounds of competitive solicitations.

Q. Why should the Commission address environmental risk management policy now if that policy would not become effective until after the first round of competitive solicitations?

A. As with DSM, developing an environmental risk management policy will take time. Staff, utilities, and others should review environmental issues and invent options for managing environmental risks. The parties might need about a year to analyze the issues and present recommendations to the Commission, resulting in a Commission Order several weeks later. Specific utility programs will then have to be developed and reviewed by the Commission. By then, it will be time to address the second cycle of competitive solicitations. That second cycle will require considerable attention from utilities, Staff, and other parties to deal with conventional solicitation issues. It would be too burdensome to develop an environmental risk management policy and new competitive solicitation guidelines at the same time. Further, requirements for environmental risk management are inputs into competitive solicitations and should be known before conventional resources are acquired. Therefore, I recommend that the Commission use the current proceeding to formally start the process of workshops and hearings necessary to implement an environmental risk management policy.

Q. Do you have any suggestions on how the Commission should direct Staff to proceed so that environmental risk management proposals can be developed and brought to the Commission for its consideration?

A. Yes. Exhibit DB-3 sets forth a process.

Comments on Staff's Report: Public Participation

Q. In Staff's Report, dated October 26, 2002, Staff recommends several points of review of utility information. Do you have any recommendations regarding these reviews?

A. Yes. Staff has recommended review of certain pieces of information but does not permit interested parties such as the LAW Fund access to this information. In particular:

- On page 8 of the Staff report, Staff states, "Bidders will have the opportunity to review non-restricted information used by the utility in preparation for the solicitation, as well as draft solicitation materials, before the solicitation is released. Bidders may provide comments to the Staff and the Independent Monitor regarding the materials at any time before the bidders' conference." Similarly, on page 9, Staff states, "Bidders will be invited to review non-proprietary materials produced by the utility and to address comments or inquiries to the utility, Staff or the Independent Monitor regarding those materials at any time between the release of reports, plans or drafts and the conclusion of the bidders' conference." I recommend that bidders **and other interested parties** be allowed to review and comment on these materials. Expanding the review to include other parties will allow additional comments that could benefit consumers, utilities, or bidders. For example, interested parties may identify provisions in the draft solicitation that needlessly restrict creative bids or dissuade potential bidders. As a second example, a draft solicitation might impede certain technologies from bidding which could otherwise provide resources at lower cost or with less environmental impact. A wider ranging review might catch such problems.
- On page 14, Staff states that "The load forecast, resource plan and needs assessment will be reviewed with the Staff and the Independent Monitor." I do not understand why this information can't be provided to all interested parties.

- On page 17, Staff states that "It will be the responsibility of the utility to prepare draft solicitation materials and to discuss these drafts with the Staff and the Independent Monitor prior to distributing them in draft form to potential bidders." Consistent with the above recommendation, I recommend that the term "potential bidders" be replaced with "potential bidders and other interested parties."
- On pages 20 and 21, Staff states that "Each utility shall schedule one or more bidders' conferences to answer questions posed by potential bidders and to take comments regarding the adequacy and quality of the information provided to bidders. All bidders' conferences must be completed at least 10 days before the release of the final bid package." I recommend that all interested parties be allowed to attend the bidders' conferences and be allowed to ask questions.

Comments on Staff's Report: Environmental Information

Q. In light of Commissioners' concerns about environmental aspects of resource decisions, are there ways in which the competitive solicitation process can provide useful information on environmental impacts, beyond the environmental risk management process proposed above?

A. Yes. As proposed by Staff, the monitor is to provide a report to the Commission on the solicitation process (pp. 11 and 26) and Staff is to review the utilities' power supply portfolios (p. 27). The LAW Fund believes that these reports and reviews would benefit from inclusion of the air emissions (carbon dioxide, carbon monoxide, sulfur oxides, nitrogen oxides, mercury, particulates, and perhaps other emissions) and the water usage of the resources acquired and of the utilities' entire portfolios. Such information would be instructive for the Commission to evaluate whether the competitive solicitation process is resulting in improved environmental performance. This information should be provided for the Spring 2003 competitive solicitation and subsequent solicitations.

Comments on Staff's Report: Price Risk

Q. Does Staff's proposed review process (pages 22 and 23) adequately address price volatility and price risk?

A. No. A major lesson of electricity markets in the past few years is that prices can suddenly jump way up or way down. Unfortunately, price risk and price volatility are not given adequate attention by Staff. On page 22, Staff states that utilities are to use a single fuel price forecast. While this may reduce bias in reviewing alternative proposals, it also overlooks price volatility. A range of prices ought to be used. On page 23, Staff lists various evaluation criteria, but neglects explicit consideration of price volatility. Applying Staff's criteria, two bids with an expected price of $0.04 per kWh would be ranked equally, even if one bid exposed the utility to wide price fluctuations and the other bid collared price variations or otherwise hedged price risk. The LAW Fund recommends that price risk and management of that price risk be explicitly included in the evaluation criteria and that utilities be required to address price risk in their evaluations for any proposals that allow price to vary.

Response to Staff's Position on DSM and Environmental Risk Management

Q. Staff states (page 39) that DSM and environmental risk mitigation should not be addressed by the Commission in this proceeding and that the Commission need not decide at this time whether a separate proceeding is necessary to examine these issues. Do you agree?

A. No. It is in the public interest to reduce the costs of meeting the demand for electric energy services through DSM and it is in the public interest to address environmental aspects of resource acquisitions. As explained above, DSM requirements and environmental risk management should be inputs into the next round of competitive solicitations. Staff's proposal does not allow for adequate time to develop the DSM

and environmental risk management policies so that APS and TEP can incorporate them into their next round of solicitations.

Q. Does this conclude your direct testimony?

A. Yes.

Qualifications of David Berry

Education:

B.A. Syracuse University (Geography)
M.A. University of Pennsylvania (Regional Science)
Ph.D. University of Pennsylvania (Regional Science)

Employment History:

- Land and Water Fund of the Rockies, Senior Policy Advisor (2001 - present)
- Navigant Consulting, Inc., Senior Engagement Manager (1997-2001)
- Arizona Corporation Commission, Chief Economist and Chief, Economics and Research (1985 – 1996)
- Boston University, Department of Urban Affairs and Planning, Lecturer (1981-1985)
- Abt Associates, Inc., Senior Analyst (1979-1985)
- University of Illinois, Department of Urban and Regional Planning, Visiting Assistant Professor (1977-1979)
- University of Pennsylvania, Regional Science Department, Lecturer (1974 –1977)
- Regional Science Research Institute, Research Associate (1972-1977)
- U.S. Army (1969-1971)

Testimony and Public Comment:

- Before the Maine Land Use Regulation Commission
- Before the Arizona Corporation Commission
- Before the New Mexico Public Regulation Commission

Publications in:

- *Ecological Economics*
- *Public Management*
- *Journal of the American Planning Association*
- *Business Economics*
- *Solar Today*
- *NRRI Quarterly Bulletin*
- *The Electricity Journal*
- *Journal of Economic Issues*
- *Public Utilities Fortnightly*
- *Journal of Environmental Management*
- *Professional Geographer*
- *Energy Policy*
- *Water Spectrum*
- *Geographical Perspectives*
- *Strategic Planning for Energy and the Environment*
- *National Tax Journal*
- *Policy Sciences*
- *Natural Resources Journal*
- *Water International*
- *Growth and Change*
- *Home Energy*
- *American Journal of Economics and Sociology*
- Chapters in books and proceedings

Proposed Steps to Commission Adoption of a DSM Policy

1. **Educational Workshop on DSM:** Staff invites outside experts on DSM measures and programs to make presentations and answer questions about DSM. Staff should solicit names of possible speakers from interested parties. Arizona utilities should be invited to make presentations on their DSM programs. It may also be desirable to also invite a speaker from an organization that provides DSM services. This may be a two day workshop.

2. **Workshop on Determining the Amount of DSM to Pursue:** Utilities, Staff, and other interested parties present and discuss their analyses on the amount of feasible, cost effective DSM, costs of DSM measures, suggested target levels of DSM and associated resource acquisition schedules, and programs to implement the suggested target levels of DSM. Implementation issues should include how DSM program are to be carried out – e.g., by the utility, by program administrators selected by the utility, by a third party selected by the Commission, etc. This workshop could run for two or three days.

3. **Workshop to Reach Agreement on DSM Program Features, Where Possible:** The parties to the second workshop may be able to reach agreement on some important DSM program features while disagreeing on other features. To assist the Commission, the parties should identify areas of agreement.

4. **Workshop to Develop DSM Acquisition Process:** Similar to the Track B workshops on competitive solicitation, utilities, Staff, and interested parties should discuss the parameters of a separate solicitation process for acquiring DSM resources and seek to reach consensus, to the extent possible, on that process.

5. **Hearing on DSM Policy**: Utilities, Staff, and interested parties would present testimony on DSM proposals for Commission consideration. Topics addressed in the hearing would include the amount and types of DSM to be pursued in the service areas of APS and TEP, and mechanisms for implementing DSM programs.

Proposed Steps to Commission Adoption of an Environmental Risk Management Policy

1. **Educational Workshop**: Staff invites outside experts on environmental aspects of power generation, including climate change, to make presentations and answer questions. Staff should solicit names of possible speakers from interested parties.

2. **Brainstorming Workshop on Policies to Manage Environmental Risks:** Staff or a facilitator working for Staff would coordinate a discussion among utilities, independent power producers, other interested parties, and one or more experts from the first workshop to determine which environmental issues should be addressed (e.g., sulfur oxide emissions, nitrous oxide emissions, mercury emissions, water consumption) in addition to climate change/carbon dioxide emissions, and to invent and critique options for managing the risks of environmental impacts of power generation. Examples of options include: a) applying adders reflecting the cost of complying with future regulations to the cost of each resource to identify resources with the lowest total (conventional plus environmental) cost (adders are not actually paid to the supplier); b) reducing emissions through DSM, fuel substitution, and improved heat rates at power plants, for example; c) offsetting emissions; and d) explicit allocation of environmental risks among utilities, power suppliers, and ratepayers. The workshop is, of course, expected to expand and modify this illustrative list.

3. **Workshop to Reach Agreement, Where Possible, on Environmental Risk Management:** As a result of the second workshop, parties may be able to agree on some aspects of an environmental risk management policy. Staff would facilitate consensus building.

4. **Hearing on Environmental Risk Management:** Utilities, Staff, and interested parties would present testimony on environmental risk management proposals for Commission consideration. Hearing topics could include environmental performance targets for utility resource portfolios, costs of emission reductions and offsets, mechanisms to meet performance standards, and specific programs for achieving target emission reductions or offsets and for meeting water consumption goals.

Original and 19 copies of the foregoing filed with Docket Control, Arizona Corporation Commission, 1200 W. Washington Street, Phoenix, AZ 85007, on the 11th day of November 2002, and copies mailed to:

Scott S. Wakefield
RUCO
1110 W. Washington, Suite 220
Phoenix AZ 85007

C. Webb Crockett
Jay L. Shapiro
Fennemore Craig
3003 N. Central. Suite 2600
Phoenix AZ 85012-2913

Walter W. Meek, President
Arizona Utility Investors Association
2100 N. Central, Suite 210
Phoenix AZ 85004

Steven J. Duffy
Ridge & Isaacson
3101 N. Central, Suite 1090
Phoenix AZ 85012

Steve Lavigne
Director of Regulatory Affairs
Duke Energy
4 Triad Center, Suite 1000
Salt Lake City UT 84180

Robert S. Lynch
Arizona Transmission Dependent Utility Group
340 East Palm Lake, Suite 140
Phoenix AZ 85004-4529

Dennis L. Delaney
K.R. Saline & Associates
160 N. Pasadena, Suite 101
Mesa AZ 85201-6764

Kevin C. Higgins
Energy Strategies
30 Market Street, Suite 200
Salt Lake City UT 84101

David Berry
Land and Water Fund of the Rockies
P.O. Box 1064
Scottsdale, AZ 85252

Randall H. Warner, Esq.
Jones, Skelton & Hochuli, PLC
2901 Central, Suite 800
Phoenix AZ 85012

Mark Sirois
Executive Director
Arizona Community Action Assn
2627 North Third Street #2
Phoenix AZ 85004

Terry Frothun
Arizona State AFL-CIO
5818 N. 7th Street, Suite 200
Phoenix Arizona 85014-5811

Norman J. Furuta
Department of the Navy
900 Commodore Drive, Bldg 107
San Bruno California 94066-5006

Christopher J. Emge
Arizona Community Action Assn.
2627 N. 3rd Street, Suite 2
Phoenix Arizona 85004

Barbara S. Bush
Coalition for Responsible Energy Education
315 West Riviera Drive
Tempe Arizona 85252

Robert J. Metli
Cheifetz & Iannitelli, P.A.
3238 N. 16th St.
Phoenix AZ 85016

Rick Lavis
Arizona Cotton Growers Association
4139 East Broadway Road
Phoenix, Arizona 85040

Steve Brittle
Don't Waste Arizona, Inc.
6205 South 12th Street
Phoenix Arizona 85040

Columbus Electric Cooperative, Inc.
P.O. Box 631
Deming, New Mexico 88031

Continental Divide Electric Cooperative
P.O. Box 1087
Grants New Mexico 87020

Dixie Escalante Rural Electric Association
CR Box 95
Beryl Utah 84714

Garkane Power Association, Inc.
P.O. Box 790
Richfield. Utah 84701

Arizona Dept of Commerce
Energy Office
3800 North Central Avenue, 12th Floor
Phoenix Arizona 85012

Jessica Youle
PAB300
Salt River Project
P.O. Box 52025
Phoenix Arizona 85072-2025

Joe Eichelberger
Magma Copper Company
P.O. Box 37
Superior Arizona 85273

Craig Marks
Citizens Utilities Company
2901 N. Central Avenue, Suite 1660
Phoenix Arizona 85012-2736

Barry Huddleston
Destec Energy
P.O. Box 4411
Houston Texas 77210-4411

Steve Montgomery
Johnson Controls
2032 West 4th Street
Tempe Arizona 85281

Peter Glaser
Shook, Hardy & Bacon, LLP
600 14th St. NW Suite 800
Washington DC 20005-2004

Douglas Nelson
Douglas C. Nelson, PC
7000 N. 16th Street, Suite 120-307
Phoenix Arizona 85020-5547

Larry McGraw
USDA-RUS
6266 Weeping Willow
Rio Rancho, New Mexico 87124

Jim Driscoll
Arizona Citizen Action
5160 E. Bellevue Street, Apt. 101
Tucson AZ 85712-4828

William Baker
Electrical District No. 6
7310 N. 16th Street, Suite 320
Phoenix, Arizona 85020

John Jay List
General Counsel
National Rural Utilities Cooperative
Finance Corp.
2201 Cooperative Way
Herndon Virginia 21071

Robert Julian
PPG
1500 Merrell Lane
Belgrade Montana 59714

K.R. Saline
K.R. SALINE & ASSOCIATES
Consulting Engineers
160 N. Pasadena, Suite 101
Mesa Arizona 85201-6764

Timothy M. Hogan
Arizona Center for Law in the Public
Interest
202 F. McDowell Rd., Suite 153
Phoenix Arizona 85004

Marcia Weeks
18970 N. 116th Lane
Surprise Arizona 85374

Albert Sterman
Arizona Consumers Council
2849 East 8th Street
Tucson Arizona 85716

Suzanne Dallimore
Antitrust Unit Chief
Arizona Attorney General's Office
1275 West Washington Street
Phoenix, Arizona 85007

Raymond S. Heyman
Roshka Heyman & Dewulf
400 E. Van Buren, Suite 800
Phoenix, Arizona 85004

Stephen L. Teichler
Duane Morris & Heckscher
1667 K Street NW, Suite 700
Washington DC 20006

Kathy T. Puckett
Shell Oil Company
200 N. Dairy Ashford
Houston, Texas 77079

Harry Kingerski
Shell Energy Services Co.
PO Box 4402
Houston Texas 77210-4402

John T. Travers
William H. Nau
272 Market Square, Suite 2724
Lake Forest, Illinois 60045

Timothy Michael Toy
Winthrop, Stimson, Putnam & Roberts
One Battery Park Plaza
New York New York 10004-1490

Stephanie A. Conaghan
Duane, Morris & Heckscher
1667 K Street NW, Suite 700
Washington DC 20006-1608

Chuck Miessner
NEV SOUTHWEST LLC
P.O. Box 711, Mailstop-DA308
Tucson, Arizona 85702-0711

Raymond B. Wuslich
Winston & Strawn
1400 L Street NW
Washington DC 20005

Steven C. Gross
Porter Simon
40200 Truckee Airport Road
Truckee California 96161-3307

Peter Q. Nyce, Jr.
Department of the Army
JALS-RS Suite 713
901 N. Stuart Street
Arlington Virginia 22203-1837

Holly F. Chastain
Schlumberger Resource Management
Services
5430 Metric Place
Norcross Georgia 30092-2550

Leslie Lawner
Enron Corp.
712 North Lea
Roswell New Mexico 88201

Dan Neidlinger
Neidlinger & Associates
3020 N. 17th Drive
Phoenix, Arizona 85015

Chuck Garcia
PNM Law Department
Alvardo Square, MS 0806
Albuquerque New Mexico 87158

Sanford J. Asman
570 Vinington Court
Dunwoody Georgia 30350-5710

Donald R. Allen
John P. Coyle
DUNCAN & ALLEN
1575 Eye Street NW, Suite 300
Washington DC 20005

Ward Camp
Phaser Advanced Metering Services
400 Gold SW, Suite 1200
Albuquerque New Mexico 87102

Theresa Drake
Idaho Power Company
P.O. Box 70
Boise, Idaho 83707

Libby Brydolf
California Energy Markets Newsletter
2419 Bancroft Street
San Diego California 92104

Paul W. Taylor
R W BECK
2201 E. Camelback Rd, Suite 115-B
Phoenix, Arizona 85016-3433

James P. Barlett
5333 N. 7th Street, Suite B-215
Phoenix Arizona 85014

Alan Watts
Southern California Public Power Agency
529 Hilda Court
Anaheim California 92806

Frederick M. Bloom
Commonwealth Energy Corporation
15991 Red Hill Avenue, Suite 201
Tustin California 92780

Margaret McConnell
Maricopa Community Colleges
2411 W. 14th Street
Tempe Arizona 85281-6942

Chris King
Utility.com Inc.
40 E. Verdugo Ave
Burbank CA 91502-1981

Christopher C. Kempley, Esq.
Chief Counsel, Legal Division
Arizona Corporation Commission
1200 W. Washington
Phoenix AZ 85007

Brian Soth
Firstpoint Services, Inc.
1001 SW 5th Ave. Suite 500
Portland, Oregon 92704

M.C. Arendes Jr.
C3 Communications, Inc.
2600 Via Fortuna, Suite 500
Austin, Texas 78746

Ian Calkins
Phoenix Chamber of Commerce
201 N. Central, 27th Floor
Phoenix AZ 85073

Lyn Farmer
Chief Administrative Law Judge
Arizona Corporation Commission
1200 West Washington
Phoenix AZ 85007

Ernest Johnson, Director
Utilities Division
Arizona Corporation Commission
1200 West Washington
Phoenix AZ 85007

TEP Legal Dept – DB 203
220 W. 6th St.
PO Box 711
Tucson AZ 85702-0711

Vinnie Hunt
City of Tucson
Dept of Operations
4004 S. Park Ave. Bldg 2
Tucson AZ 85714

Ryle J. Carl III
IBEW #1116
750 S. Tucson Blvd.
Tucson AZ 85716-5698

Carl Dabelstein
Citizens Communications
2901 N. Central Ave., Suite 1660
Phoenix AZ 85012

Andrew Bettwy
Debra Jacobson
Southwest Gas Corp.
5241 Spring Mountain Rd
Las Vegas NV 89150-0001

Barbara R. Goldberg
Office of the City Attorney
3939 Civic Center Blvd
Scottsdale AZ 85251

Jay Kaprosy
Phoenix Chamber of Commerce
201 N. Central, 27th Floor
Phoenix AZ 85073

Kevin McSpadden
Milbank, Tweed, Hadley and McCloy
601 S. Figueroa, 30th Floor
Los Angeles California 90017

David Couture
TEP
4350 E. Irvington Rd
Tucson AZ 85714

John A. LaSota Jr.
Miller LaSota & Peters
5225 N. Central Ave., Suite 235
Phoenix AZ 85012

Peter W. Frost
Conoco Gas & Power Marketing
600 N. Dairy Ashford, CH-1068
Houston TX 77079

Curtis Kebler
Reliant Resources
8996 Etiwanda Ave
Rancho Cucamonga CA 91739

Arizona Reporting Service
2627 N. 3d St., Suite 3
Phoenix AZ 85004-1104

Greg Patterson
Arizona Competitive Power Alliance
245 West Roosevelt
Phoenix AZ 85003

via email:

Donna M. Bronski
City Attorney's Office
3939 N. Drinkwater Blvd.
Scottsdale AZ 85251
dbronski@ci.scottsdale.az.us

Michael A. Curtis
William P. Sullivan
Paul R. Michaud
Martinez & Curtis, P.C.
2712 North 7th Street
Phoenix Arizona 85006
mcurtis401@aol.com
wsullivan@martinezcurtis.com
pmichaud@ martinezcurtis.com

Raymond S. Heyman
Roshka Heyman & Dewulf
400 E. Van Buren, Suite 800
Phoenix, Arizona 85004
rheyman@rhd-law.com
mpatten@rhd-law.com

Lori Glover
Director of Industry Affairs
Stirling Energy Systems
2920 E. Camelback Rd. #150
Phoenix AZ 85016
lglover@stirlingenergy.com

Jay I. Moyes
Moyes Storey
3003 N. Central Ave., Suite 1250
Phoenix Arizona 85012
jimoyes@lawms.com

Jesse Dillon
PPL Services Corp.
2 N. Ninth St.
Allentown PA 18101-1179
jadillon@pplweb.com

Joan Walker-Ratliff
Manager, Regulatory Affairs
Conoco Gas and Power
PO Box 1267 125-4 ST
Ponca City OK 74602
joan.walker-ratliff@conoco.com

Theodore E. Roberts
Sempra Energy Resources
101 Ash St., HQ 12-B
San Diego CA 82101-3017
troberts@sempra.com

William J. Murphy
City of Phoenix
200 W. Washington St., Suite 1400
Phoenix AZ 85003-1611
bill.Murphy@phoenix.gov

Russell E. Jones
Waterfall Economidis Caldwell
Hanshaw & Villamana
5210 E Williams Cir, Suite 800
Tucson AZ 85711
rjones@wechv.com

Christopher Hitchcock
Hitchcock & Hicks
PO Box 87
Bisbee AZ 85603-0087
lawyers@bisbeelaw.com
John Wallace
Grand Canyon State Electric Co-op
120 N. 44th St., Suite 100
Phoenix AZ 85034-1822
jwallace@gcseca.org

Jana Van Ness
APS
Mail Station 9905
PO Box 53999
Phoenix AZ 85072-3999
jana.vanness@aps.com

Kelly Barr
Jana Brandt
SRP, Mail Station PAB 211
PO Box 52025
Phoenix AZ 85072-2025
kjbarr@srpnet.com
jkbrandt@srpnet.com

Vicki G. Sandler
c/o Linda Spell
APS Energy Services
PO Box 53901
Mail Station 8103
Phoenix AZ 85072-3901
linda.spell@apses.com

Mary-Ellen Kane
ACAA
2627 N. 3d St., Suite 2
Phoenix AZ 85004
mkane@azcaa.org

Aaron Thomas
AES NewEnergy
350 S. Grand Ave., Suite 2950
Los Angeles CA 90071
aaron.thomas@aes.com

Theresa Mead
AES NewEnergy
PO Box 65447
Tucson AZ 85728
theresa.mead@aes.com

Robert Annan
AZ Clean Energy Industries Alliance
6605 E. Evening Glow Dr
Scottsdale AZ 85262
annan@primenet.com

Philip Key
Renewable Energy Leadership Group
10631 E. Autumn Sage Dr
Scottsdale AZ 85259
keytaic@aol.com
Paul Bullis
Office of the Attorney General
1275 W. Washington St.
Phoenix AZ 85007
paul.bullis@ag.state.az.us

Laurie Woodall
Office of the Attorney General
15 S. 15th Ave.
Phoenix AZ 85007
laurie.woodall@ag.state.az.us

Larry F. Eisenstat
Frederick D. Ochsenhirt
Dickstein Shapiro Morin & Oshinsky
2101 L Street NW
Washington DC 20037
eisenstatl@dsmo.com
ochsenhirtf@dsmo.com

David Crabtree
Dierdre Brown
Teco Power Services
PO Box 111
Tampa FL 33602
dacrabtree@tecoenergy.com
dabrown@tecoenergy.com

Michael Trentel
Patrick Burnett
Panda Energy International
4100 Spring Valley Suite 1010
Dallas TX 75244
michaelt@pandaenergy.com
patb@pandaenergy.com

Lawrence V. Robertson. Jr.
Munger Chadwick, PLC
National Bank Plaza
333 North Wilmot, Suite 300
Tucson AZ 85711
lvrobertson@mungerchadwick.com

Tom Wray
Southwestern Power Group II
twray@southwesternpower.com

Michael Grant
Gallagher & Kennedy
2575 East Camelback Road
Phoenix Arizona 85016-9225
mmg@gknet.com

Patricia Cooper
AEPCO/SSWEPCO
1000 South Highway 80
Benson, Arizona 85602
pcooper@aepnet.org

Kevin McSpadden
Milbank, Tweed, Hadley and McCloy
601 S. Figueroa, 30th Floor
Los Angeles California 90017
kmcspadden@milbank.com

Patrick J. Sanderson
Arizona Independent Scheduling
Administrator Assn
P.O. Box 6277
Phoenix Arizona 85005-6277
psanderson@az-isa.org

Roger K. Ferland
Quarles & Brady Streich Lang
Renaissance One
Two North Central
Phoenix AZ 85004-2391
rferland@quarles.com

Jeffrey B. Guldner
Snell & Wilmer
One Arizona Center
Phoenix AZ 85004
jguldner@swlaw.com

Thomas L. Mumaw
Pinnacle West
PO Box 53999 MS 8695
Phoenix AZ 85072-3999
Thomas.mumaw@pinnaclewest.com

Michael L. Kurtz
Borhm Kurtz & Lowry
36 E. Seventh Street, Suite 2210
Cincinnati OH 45202
mkurtzlaw@aol.com

William P. Inman
General Counsel
Arizona Department of Revenue
1600 West Monroe, Room 911
Phoenix AZ 85007
inmanw@revenue.state.az.us

Robert Baltes, President
Arizona Cogeneration Association
Baltes/Valentino Associates Limited
7250 North 16th Street, Suite 102
Phoenix AZ 85020-5270
bbaltes@bvaeng.com

Howard Geller
SWEEP
2260 Baseline Rd., Suite 212
Boulder CO 80302
hgeller@swenergy.org

Jeff Schlegel
SWEEP
1167 Salamayuca Dr
Tucson AZ 85704
schlegelj@aol.com

Peter Van Haren
City of Phoenix
attn: Jesse Sears
200 W. Washington
Phoenix AZ 85003
jesse.sears@phoenix.gov

Penny Anderson (penny@lawfund.org)