BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS

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IN THE MATTER OF THE FILING BY
TUCSON ELECTRIC POWER COMPANY
TO AMEND DECISION NO. 62103.

DOCKET NO. E-01933A-05-0650

Direct Testimony of

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Southwest Energy Efficiency Project (SWEEP)

January 8, 2007
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Introduction

Q. Please state your name and business address.

A. My name is Jeff Schlegel. My business address is 1167 W. Samalayuca Drive, Tucson, Arizona 85704-3224.

Q. For whom and in what capacity are you testifying?

A. I am testifying on behalf of the Southwest Energy Efficiency Project (SWEEP). I am the Arizona Representative for SWEEP.

Q. Please describe the Southwest Energy Efficiency Project.

A. SWEEP is a public interest organization dedicated to advancing energy efficiency as a means of promoting both economic prosperity and environmental protection in the six states of Arizona, Colorado, New Mexico, Nevada, Utah, and Wyoming. SWEEP works on state energy legislation, analysis of energy efficiency opportunities and potential, expansion of state and utility energy efficiency programs as well as the design of these programs, building energy codes and appliance standards, and voluntary partnerships with the private sector to advance energy efficiency. SWEEP is collaborating with utilities, state agencies, environmental groups, universities, and energy specialists in the region. SWEEP is funded primarily by foundations, the U.S. Department of Energy, and the U.S. Environmental Protection Agency. I am the Arizona Representative for SWEEP.

Q. What are your professional qualifications?

A. I am an independent consultant specializing in policy analysis, evaluation and research, planning, and program design for energy efficiency and clean energy resources. I consult for public groups and government agencies, and I have been working in the field for over 20 years. In addition to my responsibilities with SWEEP, I am working or have worked extensively in many of the states that have effective energy efficiency programs, including California, Connecticut, Massachusetts, New Jersey, Vermont, and Wisconsin. In 1997, I received the Outstanding Achievement Award from the International Energy Program Evaluation Conference. I have represented SWEEP before the Commission since 2002.
Summary of Testimony and Recommendations

Q. Please summarize your testimony.

A. I will testify that:

- The Commission should increase energy efficiency in the Tucson Electric Power Company (TEP) service territory to achieve significant and cost-effective benefits for TEP customers, the electric system, the economy, and the environment.

- Specifically, the Commission should set TEP Demand Side Management (DSM) energy efficiency program goals in the form of an Energy Efficiency Standard (EES). The EES should require TEP DSM energy efficiency programs to: (1) achieve energy savings equal to at least 5% of total energy resources needed to meet retail load in 2010, and at least 15% in 2020; and (2) reduce summer peak demand by at least 5% of total capacity resources needed to meet retail peak demand in 2010, and at least 15% in 2020. The goals of the EES are meaningful and realistic, and they can be achieved with cost-effective energy efficiency programs.

- Achieving the goals of the Energy Efficiency Standard would provide TEP consumers and businesses with over $450 million in net economic benefits (benefits minus costs) during 2007-2020, eliminate the need for about 500 MW of new power plants by 2020 and the associated power line and pipeline infrastructure costs, provide 530 GWh of cumulative annual energy savings in 2010 and over 2,200 GWh in 2020, reduce average annual load growth in retail energy and summer peak demand by 35% (from 3.4% to 2.2%), reduce electricity price spikes and the risks of price volatility, and reduce air pollution and the carbon emissions that cause global warming.

- Other states and utilities have achieved energy savings equivalent to or greater than the EES goals that SWEEP proposes.

- TEP will need to develop and implement additional DSM energy efficiency programs or program elements in order to achieve the EES goals. TEP’s existing effective DSM energy efficiency programs should be included in the energy efficiency portfolio and should count or contribute to achieving the EES goals.

- The Commission should authorize adequate funding to achieve the goals of the Energy Efficiency Standard (EES). SWEEP estimates that energy efficiency funding of $0.002 per kWh of retail energy sales (2 mills) will be necessary to achieve the EES goals. In 2007, total DSM energy efficiency funding should be about $18.7 million. In 2008, DSM energy efficiency funding should be $19.1 million in 2008. Funding for any DSM demand response, pricing, and/or load...
management/load control programs should be in addition to the energy efficiency program funding.

- DSM energy efficiency funding and cost recovery could be accomplished through funding in base rates, a DSM adjustment mechanism, a system benefits surcharge, amortizing or capitalizing the DSM investments over time, or a combination of funding mechanisms. SWEEP does not have a strong preference for one particular mechanism.

- TEP should file an implementation plan to achieve the goals of the EES, covering the 2007-2020 program years, during 2007. The EES Implementation Plan should be developed by TEP with input from and review by a Collaborative DSM Working Group, which should include Staff and interested parties. The EES Implementation Plan would be reviewed by Staff, and then be reviewed and approved by the Commission prior to implementation for 2007 and future years.

- Based on my initial review, TEP’s DSM cost-effectiveness analysis does not appear to be consistent with Commission-approved practice.

- SWEEP supports complementary approaches such as demand response and load management/load control programs to encourage peak load reductions, and pricing and rate designs, including inverted tier and TOU rate designs, to encourage energy efficiency and reduce peak demand. SWEEP supports these approaches as complements to effective energy efficiency policies and programs, not as replacements for cost-effective utility DSM energy efficiency programs.
The Public Interest: Benefits of Increasing Energy Efficiency

Q. What is the public interest in increasing energy efficiency in the TEP service territory?

A. Increasing energy efficiency will provide significant and cost-effective benefits for TEP customers (residential consumers and businesses), the electric system, the economy, and the environment. Increasing energy efficiency will save consumers and businesses money through lower electric bills, resulting in lower total costs for customers. Increasing energy efficiency will also reduce load growth, diversify energy resources, enhance the reliability of the electricity grid, reduce the amount of water used for power generation, reduce air pollution and carbon emissions, and create jobs and improve the economy. In addition, meeting a portion of load growth through increased energy efficiency can help to relieve system constraints in load pockets.

By reducing electricity demand, energy efficiency mitigates electricity and fuel price increases and reduces customer vulnerability and exposure to price volatility. Energy efficiency does not rely on any fuel and is not subject to shortages of supply or increased prices for fuels.

Energy efficiency is a reliable energy resource that costs less than other resources for meeting the energy needs of customers in the TEP service territory. The total cost (sum of program and customer costs) for energy efficiency savings is two to three cents per lifetime kWh saved, delivered to the customer. This is significantly less than the cost of conventional generation, transmission, and distribution. The utility program cost to TEP ratepayers is even lower, about one to two cents per lifetime kWh saved.

The Energy Efficiency Standard (EES):
Goals for Energy Savings and Peak Demand Reduction

Q. Specifically, what actions should the Commission take to increase energy efficiency goals in the TEP service territory?

A. The Commission should set TEP Demand Side Management (DSM) energy efficiency program goals in the form of an Energy Efficiency Standard (EES). The EES should require TEP DSM energy efficiency programs to: (1) achieve energy savings equal to at least 5% of total energy resources needed to meet retail load in 2010, and at least 15% in 2020; and (2) reduce summer peak demand by at least 5% of total capacity resources needed to meet retail peak demand in 2010, and at least 15% in 2020.
Meeting the EES goals would provide cost-effective benefits to consumers, the
electric system, the economy, and the environment. And meeting the EES goals
would contribute substantially to the achievement of the adopted goal of the Western
Governors Association (WGA) to increase energy efficiency 20% by 2020. The
adoption of the WGA energy efficiency goal was based on a technical review by
stakeholders and WGA staff, documented in the energy efficiency report for the
WGA Clean and Diversified Energy (CDEAC) process.

Also, in Arizona in August 2006, a diverse group of 35 Arizona stakeholders\(^1\)
provided a consensus recommendation to set electric energy savings goals of 5%
savings by 2010 and 15% savings by 2020 through demand-side programs, together
with the implementation of policies and funding mechanisms needed to achieve those
goals. These goals are equivalent to the EES goals proposed by SWEEP.

Q. What benefits would result from achieving the EES goals?

A. Achieving the goals of the Energy Efficiency Standard would save consumers and
businesses over $450 million in net economic benefits (benefits minus costs) during
2007-2020, eliminate the need for about 500 MW of new power plants by 2020 and
the associated power line and pipeline infrastructure costs, provide 530 GWh of
cumulative annual energy savings in 2010 and over 2,200 GWh in 2020, reduce
average annual load growth in retail energy and summer peak demand by 35% (from
3.4% to 2.2%), reduce electricity price spikes and the risks of fuel price volatility, and
reduce air pollution and the carbon emissions that cause global warming.

Essentially, the EES would result in a 500 MW “energy efficiency power plant” that
would provide over $450 million of net economic benefits to consumers, instead of
building conventional power plants that would cost more and expose consumers to
higher electricity prices, use precious water, and harm the environment.

Q. Are the goals of the EES reasonable and achievable?

A. Yes, the proposed EES goals are both reasonable and achievable. The goals are
reasonable and achievable considering the low level of energy efficiency activities in
Arizona in the past, the need to ramp up energy efficiency efforts in the early years,
the high rate of load growth in the TEP service territory, the significant energy
efficiency potential in new construction, and the historical energy efficiency
performance in leading states.

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\(^1\) Arizona Climate Change Advisory Group, *Climate Change Action Plan*, August 2006;
www.azclimatechange.us; p. 50.
Q. Have other states or utilities achieved energy savings equivalent to the EES goals that SWEEP proposes?

A. Yes. According to a 2005 study by the American Council for an Energy Efficient Economy (ACEEE), based on 2003 data the utilities report to EIA, seven states achieved cumulative annual energy savings greater than 5% of retail energy sales. In terms of 2003 cumulative annual energy savings as a percent of 2003 retail sales, the seven states saved energy equivalent to between 5.8% and 7.8% of retail sales. All seven of the states (Connecticut, California, Washington, Minnesota, Rhode Island, Oregon, and Massachusetts) have continued their energy efficiency programs since 2003, therefore their cumulative energy savings in 2007 should be even higher.

Q. Will TEP need additional DSM energy efficiency programs to achieve the EES goals?

A. Yes. TEP will need to develop and implement additional DSM energy efficiency programs or program elements in order to achieve the EES goals. TEP’s existing effective DSM energy efficiency programs should be included in the energy efficiency portfolio and should count or contribute to achieving the EES goals.

Q. Are the existing TEP DSM energy efficiency programs performing adequately?

A. Yes. The performance to date of the approved TEP DSM energy efficiency programs has been good, and the programs are providing meaningful net benefits. However, as noted above, additional energy efficiency programs will be needed to achieve the EES goals and the associated increase in benefits, including programs for residential, commercial, industrial, municipal, and institutional customers.

Funding to Achieve the Energy Efficiency Standard (EES) Goals

Q. What funding level will be needed to achieve the goals of the Energy Efficiency Standard proposed by SWEEP?

A. The Commission should authorize adequate funding to achieve the goals of the Energy Efficiency Standard (EES). SWEEP estimates that energy efficiency funding of $0.002 per kWh of retail energy sales (2 mills) will be necessary to achieve the EES goals. In 2007, total DSM energy efficiency funding should be about $18.7 million. In 2008, DSM energy efficiency funding should be $19.1 million in 2008.

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Funding for any DSM demand response, pricing, and/or load management/load control programs should be in addition to the energy efficiency program funding.

Q. What would be the impact of the total funding level on residential customers?

A. The total energy efficiency funding level of $0.002 per kWh of retail energy sales (2 mills), if expensed annually, would amount to slightly more than $2.00 per month for the average TEP residential customer.

While rates would likely increase slightly, the total costs to customers (customer bills) would decrease due to investment in cost-effective energy efficiency.

**DSM Funding and Cost-Recovery Mechanisms**

Q. Which DSM funding and cost-recovery mechanisms should be used to provide the additional DSM funding that will be needed to achieve the goals of the EES?

A. In general, energy efficiency funding and cost recovery could be accomplished through funding in base rates, a DSM adjustment mechanism, a system benefits surcharge, amortizing or capitalizing the DSM investments over time, or a combination of funding mechanisms.

Q. Are there DSM funding and cost-recovery mechanisms that would reduce the rate impacts of the DSM program funding increase in the early years of the EES?

A. Yes. The Commission could choose to amortize or capitalize a portion of the DSM expenditures, similar to how investments in power plants are recovered through customer rates over time, thereby reducing the customer rate impacts of DSM programs in the early years of the EES. For example, the Commission could spread the additional DSM costs to ratepayers across several years (e.g., 5 years) in a manner that acknowledges that the energy efficiency benefits are achieved over several years.

Q. Could a combination of DSM funding and cost-recovery mechanisms be used?

A. Yes. For example, the TEP DSM energy efficiency funding of $18 million in 2007 could consist of a portion in an adjustment mechanism, with the other portion amortized over five years.

Q. Does SWEEP have a preference for a particular funding and cost-recovery mechanism in this case?
A. SWEEP is open to considering any of the above funding and cost-recovery mechanisms and combinations. SWEEP does not have a strong preference for one particular mechanism. However, any funding mechanism or combination of mechanisms should have, at a minimum, the same advantages of a DSM adjustment mechanism, including but not limited to the flexibility to adjust funding outside of a rate case to meet customer demand for cost-effective, Commission-approved DSM services, and the ability to increase DSM funding above a base amount in the event that additional DSM programs are approved by the Commission between rate cases.

Development of an EES Implementation Plan for the TEP Service Territory

Q. Should an EES implementation plan for the TEP service territory be developed?

A. Yes. TEP should file an implementation plan to achieve the goals of the EES, covering the 2007-2020 program years, during 2007. The EES Implementation Plan should be developed by TEP with input from and review by a Collaborative DSM Working Group, which should include Staff and interested parties.

The EES Implementation Plan should include the historical DSM results for 2005-2006, a program-detail forecast for existing and new Commission-approved DSM energy efficiency programs in 2007-2010, and a less-detailed portfolio cost and savings forecast for 2011-2020.

Q. What about Staff review and Commission approval of the EES Implementation Plan?

A. The EES Implementation Plan should be reviewed by Staff, and then be reviewed and approved by the Commission prior to implementation.

Since Staff will participate directly in the development of the EES Implementation Plan as part of the DSM Collaborative Working Group, SWEEP recommends that the Commission provide 60 days for Staff review of the EES Plan after it is filed by TEP.

DSM Program Cost-Effectiveness Analysis by TEP

Q. Have you reviewed the DSM cost-effectiveness analysis performed by TEP?

A. To date I have reviewed only the summary provided in Mr. Pignatelli’s direct testimony. However, SWEEP recently received a TEP response to its data request with some additional data on the TEP cost-effectiveness analysis, which I will review.
Q. Do you have any concerns about the TEP cost-effectiveness analysis based on your review to date?

A. Yes. It appears that TEP did not use the Societal Test, which is the cost-effectiveness test approved by the Commission for analyzing DSM programs. Also, TEP emphasized the RIM test in Mr. Pignatelli’s direct testimony, which is a test that is not approved by the Commission. Finally, the TEP analysis focuses largely or solely on reducing rates rather than on reducing total customer costs and customer bills.

Other DSM and Pricing Approaches

Q. Are there other approaches to achieving energy savings and peak demand reductions that SWEEP recommends?

A. Yes. SWEEP supports complementary approaches such as demand response and load management/load control programs to encourage peak load reductions, and pricing and rate designs, including inverted tier and TOU rate designs, to encourage energy efficiency and reduce peak demand. SWEEP supports these approaches as complements to effective energy efficiency policies and programs, not as replacements for cost-effective utility DSM energy efficiency programs.

Any proposed demand response and load management/load control programs should be described and documented in the DSM EES plan or in a separate application for program pre-approval. Funding for demand response and load management/load control programs should be in addition to the increased DSM energy efficiency funding set forth herein. Costs for the demand response and load management/load control programs could be recovered through a demand response tariff or through an increase in the DSM adjustment mechanism.

Q. Does that conclude your direct testimony?

A. Yes.