IN THE MATTER OF SOUTHWESTERN
PUBLIC SERVICE COMPANY’S
APPLICATION FOR APPROVAL OF
ELECTRIC ENERGY EFFICIENCY AND
LOAD MANAGEMENT PROGRAMS AND
PROGRAM COST TARIFF RIDERS
PURSUANT TO THE NEW MEXICO PUBLIC
UTILITY AND EFFICIENT USE OF ENERGY
ACT

Case No. 07-00376-UT

Direct Testimony of

Howard Geller

on behalf of

Coalition for Clean Affordable Energy (CCAE)

January 7, 2008
Q. PLEASE STATE YOUR NAME, OCCUPATION, AND BUSINESS ADDRESS.

A. My name is Howard Geller. I am the Executive Director of SWEEP, the Southwest Energy Efficiency Project. My business address is 2260 Baseline Rd. Suite 212, Boulder, Colorado 80302.

Q. FOR WHOM ARE YOU TESTIFYING?

A. I am testifying on behalf of the Coalition for Clean Affordable Energy (CCAE).

Q. PLEASE DESCRIBE CCAE.

A. CCAE is a coalition of environmental and public interest organizations working to advance energy efficiency and renewable energy in New Mexico. CCAE was formed in 1997 and has participated in other Commission dockets. Attachment HG-1 lists the members of CCAE.

Q. WHAT ARE YOUR PROFESSIONAL QUALIFICATIONS?

A. I have 26 years of experience working on energy efficiency policy and program design, analysis, evaluation and advocacy. Prior to founding SWEEP in 2001, I served as Executive Director of the American Council for an Energy-Efficient Economy (ACEEE) in Washington, DC. I have authored or co-authored four books on energy efficiency and energy policy, and published dozens of reports and articles on these topics. I have testified before the public utility commissions of Colorado, Illinois, Maryland, Nevada, New Mexico, Utah, and the District of Columbia. Attachment HG-2 summarizes my professional qualifications.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. In my testimony I will comment on the Southwestern Public Service Company’s (SPS’s) proposed electric demand-side management (DSM) programs, make
recommendations on how I believe SPS’s DSM programs should be expanded and
improved, and comment on the incentive mechanism proposed by SPS.

Q.  

A. I support SPS’s proposed DSM programs but recommend expansion of some of these
programs as well as three additional programs. I recommend expansion of the home
lighting, low income, and business custom efficiency program. I recommend addition
of refrigerator recycling, residential evaporative cooling, and business direct
installation programs. In total, I recommend a budget of $2.84 million for SPS’s
initial DSM programs, a 56% increase over the total budget proposed by SPS. I
estimate that first year energy savings will equal approximately 17.79 GWh per year
if my recommendations are approved, a 58% increase over the first year energy
savings SPS projects for its proposed programs.

Regarding the incentive mechanism proposed by SPS, I support the shared
savings approach proposed by SPS but suggest that a cap on the incentive be added,
namely a cap of 30% of DSM program expenditures in any particular year. Second, I
recommend use of a tiered incentive approach that links the level of incentive in
terms of the share of net economic benefits that SPS is allowed to retain to the
amount of energy savings achieved. This would give SPS an incentive to maximize
both energy savings and net economic benefits. In addition, I present an alternative
incentive proposal for the PRC and other parties to consider.

Q.  

A. I support the DSM programs proposed by SPS. All the programs are likely to achieve
energy savings and/or peak load reductions, and do so cost effectively. However, I
think these programs can and should be improved in ways that I explain below. In
some cases, I recommend implementation of expanded programs. Furthermore, I think there are additional cost-effective DSM programs that SPS should implement in order to take advantage of further cost-effective energy efficiency opportunities that exist.

Q. Do you have comments on the assumptions used by SPS in its analysis of DSM programs?

A. Yes I do. There are a number of critical assumptions that influence the cost effectiveness analysis of potential DSM programs including the assumption about free riders (net-to-gross energy savings ratios) and the avoided costs used to value energy savings and peak demand reductions.

First, regarding net-to-gross energy savings ratios, some of the values assumed by SPS appear to be on the high side. In particular the value of 100% for the business cooling efficiency and business custom efficiency is optimistic in that it assumes no projects would be implemented without utility promotion and incentives (see witness Sundin testimony, Attachment DLS-1, page 49). I recommend using somewhat more conservative value, namely a net-to-gross ratio of 90% for these programs. Even with this modification the programs are cost effective by a wide margin.

Second, regarding avoided costs, the avoided T&D costs and avoided marginal energy costs used by SPS appear to be reasonable in my view. But the avoided generation cost of $67.58 per kW-year appears to be on the low side. This value is based on a combustion turbine being the avoided power generation type. However, a simple cycle combustion turbine is only one type of generating plant that utilities build and operate, mainly for meeting peak demand. Utilities such as SPS also build and operate combined cycle and steam turbine power plants, as well as
renewable energy-based generating facilities. The DSM programs proposed by SPS
do not emphasize peak demand reduction. Therefore, it is not reasonable in my view
to assume that avoided generation is purely a combustion turbine. I recommend
basing the avoided generation cost assumption on either the current mix of power
plants SPS relies on or the mix of power plants that the utility is planning to construct
in the future, in the absence of aggressive DSM programs; an average generation cost
across different types of generating facilities. Assuming a higher avoided generation
cost will increase the economic benefits and improve the cost effectiveness of the
DSM programs.

Q. TURNING TO SPECIFIC DSM PROGRAMS, DO YOU HAVE COMMENTS ON THE PROPOSED RESIDENTIAL AIR-SOURCE HEAT PUMP PROGRAM?

A. Heat pumps can be an efficient space heating and cooling technology especially in hot
climes such as southern New Mexico. But installation of a heat pump in an existing
home where natural gas or some other fuel was previously used for space heating can
result in a net increase in electricity use in that home because of the shift from fuel-
based to electricity-based heating. This is in effect fuel switching at least for space
heating. Consequently, I recommend approval of the proposed air-source heat pump
program but with the caveat that SPS not be allowed as part of its DSM program to
promote or provide incentives for installation of heat pumps in existing homes which
did not previously have electrical space heating. This should apply to all types of
housing, i.e., manufactured homes, multifamily housing, and single family housing.

Q. DO YOU HAVE COMMENTS ON THE PROPOSED HOME LIGHTING PROGRAM?

A. CFLs are a very cost effective energy efficiency measure, but the proposed home
energy lighting program offering incentives for consumers to purchase CFLs is much
too modest in my view. SPS is proposing both in-store rebates and direct CFL sales.
Based on experience in other Xcel Energy jurisdictions, most of the participants will take advantage of the in-store rebates.

This type of DSM program, featuring manufacturer and vendor incentives so that the customer gets a discounted CFL at the point of sale, has been very effective in other jurisdictions.¹ Other utilities in the region that have successfully implemented this type of program include Nevada Power Company and Arizona Public Service (APS). In March 2007, APS won an ENERGY STAR Partner of the Year award from the U.S. EPA and Department of Energy for its CFL buydown program. APS, which serves about 1.0 million households, projects that its customers will purchase 1.2 million CFLs through its program in 2007 alone, in addition to the more than two million CFLs that participants purchased through the program in 2005 and 2006.²

PNM is implementing an in-store CFL buydown program as part of its DSM programs. PNM is projecting that participants will purchase 391,000 CFLs in the first year of its program, nearly one CFL per residential customer. PNM is projecting its program will have a benefit-cost ratio of 1.60 under the TRC test. The program has experienced a very good response so far with approximately 80,000 CFLs purchased in the first month alone.³

Based on the experience of other utilities in the southwest region and PNM’s new program, I recommend that the PRC direct SPS to expand its home lighting program participation target to 50,000 CFLs in year one. This target, combined with

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³ Personal communication with Gerard Ortiz, Public Service Company of New Mexico, Nov. 15, 2007.
the 32,000 CFLs I recommend that SPS give away in its low-income program (see
comments below), means that SPS would facilitate acquisition of approximately one
CFL per household on average through its various 2008 programs. The home lighting
program could be scaled up by including more retailers, increasing advertising, and/or
offering in-store incentives for a greater portion of the year. APS, for example,
sponsors in-store rebates year-round rather than just during a month or two of the
year.

Scaling up the program in this manner will provide more energy savings and
will also improve the benefit-cost ratio by spreading the marketing and administration
costs over a greater number of participants. The program budget should be increased
by approximately $120,000 to accommodate this expansion. First year electricity
savings would increase by about 2,260,000 kWh per year relative to the more modest
program proposed by SPS (savings at the generator).

Q.  

A. There is a high fraction of low-income households in the SPS service territory.

Helping these households use electricity more efficiently is especially important
given the high energy cost burden that low-income households face. I support the
three program elements proposed by SPS—giving away CFLs, refrigerator upgrades,
and weatherization of additional households with electric heating. The CFL
component of the program is especially cost effective with an estimated benefit-cost
ratio of 3.0 under the TRC test. I believe that the benefit-cost ratio could be even
greater than this value assuming that CFLs are purchased in bulk and that
administrative costs are minimized. Consequently, I urge that this component of the
program be increased to 32,000 CFLs in year one, allowing participating households
to take up to 8 lamps per household. The program budget should be increased by
approximately $50,000 to accommodate this change, resulting in additional first year
electricity savings of about 1,200,000 kWh per year (at the generator).

Q.

A. The commercial and industrial sectors are the “bread and butter” for utility DSM
programs in general. This is true for SPS’s proposed programs as well. SPS is
proposing to achieve about 78% of the lifetime energy savings and 73% of the net
economic benefits from its business programs (see testimony of SPS witness Sundin,

The business programs proposed by SPS are reasonable in my view as
incentive programs go, with a few exceptions. First, the custom efficiency program is
expected to generate far more energy savings than any of the other DSM programs
proposed by SPS. SPS is projecting first year energy savings of 4,609,000 kWh per
year (at the generator) with a program budget of only $263,500. The proposed
incentive, $200 per kW of reduced peak demand, is relatively modest and may not be
large enough to achieve the savings target in my view. According to the DSM
potential assessment carried out for SPS, achievable energy savings from commercial
building retrofits doubles when the incentive is increased from 50% to 75% of
measure cost (see SPS witness Sundin testimony, Attachment DLS-2, page 53). SPS
should consider offering a larger incentive, say $300 per kW and paying up to 75% of
the incremental cost of efficiency measures, if the $200 per kW incentive is not
sufficient to reach the savings goal projected for the program. This can be done
without compromising the cost effectiveness of the program but would require
additional funds of up to $115,000 per year for incentives. I recommend the PRC
approve a higher budget for the business custom efficiency program, namely a total budget of $378,500, in case additional funds are needed to meet the proposed savings goal. I am not suggesting a higher savings goal for this program, only an expanded program budget in case higher incentives are needed.

Second, many smaller businesses have a difficult time participating in traditional utility rebate programs due to lack of time, lack of know-how, and lack of money available for taking on energy efficiency projects. Consequently, some utilities include a direct installation component or program for small businesses as part of their suite of business energy efficiency programs. This means hiring a contractor (or multiple contractors) to conduct marketing and install energy efficiency measures for free or at a deep discount (e.g., paying an incentive of 75-80% of the installed cost) for small businesses. In addition, some utilities offer to finance the remainder of the project cost with a low interest or zero-interest loan. This type of program minimizes the “hassle” and upfront monetary cost for small businesses, resulting in much greater program participation for small businesses compared to rebates alone. Programs along these lines have been successfully implemented by various utilities in New England and California, and have been proposed elsewhere. Several small business direct installation programs have been recognized as exemplary programs by the American Council for an Energy-Efficient Economy (ACEEE). I recommend that the Commission order SPS to add a direct installation component or program for small businesses (say those with less than 100 kW of

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4 APS, for example, has proposed a small business direct installation program to reduce barriers and increase participation of small businesses in its DSM programs. See Arizona Public Service Company, APS Non-Residential DSM Programs, 13 Month Filing. March 23, 2007, http://images.edocket.azcc.gov/docketpdf/0000069201.pdf
monthly power demand) to its business programs. I recommend a first year budget of
approximately $175,000 for this effort, which is equal to about 20% of the total
budget for business programs (with this new program component added). The
estimated first year electricity savings is 1,120,000 kWh per year, assuming the small
business direct installation program achieves two-thirds as much energy savings per
program dollar relative to the business rebate programs proposed by SPS.

Q. Are there additional energy efficiency programs that you recommend that SPS implement?

A. Yes there are. First, I recommend that the PRC direct SPS to implement a refrigerator
recycling program for its residential customers. This type of DSM program is being
successfully implemented by other electric utilities in the region including Nevada
Power Company, Rocky Mountain Power (Utah), and the municipal utility in Fort
Collins, CO. Public Service Company of New Mexico (PNM) began a refrigerator
recycling program in the fall of 2007. The program is implemented through a turn-
key contractor who has many years of experience with this type of activity. Payments
to the contractor are tied to the contractor’s performance and energy savings
achieved. For PNM, the estimated benefit-cost ratio under the total resource cost
(TRC) test is 2.69 which is consistent with experience of other utilities. Nevada
Power Co., for example, estimates that its refrigerator recycling program has a
benefit-cost ratio under the TRC test of 2.39. A refrigerator recycling facility has
been installed in New Mexico as a result of PNM beginning its program. SPS could
make use of this facility for its program as well. Based on the experience of other

http://www.aceee.org/pubs/u032.htm

\[6\] Direct testimony of Gerard T. Ortiz, Public Service Company of New Mexico, Case No. 07-00053-Ut,
utilities and PNM’s first year goal, I recommend an initial target of having SPS’s program recycle 1,700 refrigerators per year with an annual budget of about $300,000. Using the unit energy savings value assumed by PNM, a program of this size should result in about 1,200,000 kWh of first year electricity savings (at the generator).

Second, SPS has pointed out that 23 percent of its residential customers use evaporative cooling. In general households in the southwest are migrating away from evaporative cooling to much more electricity-intensive compressor-based air conditioning. SPS’s parent company, Xcel Energy, runs an effective evaporative cooling incentive program in Colorado that helps to reduce this shift. In 2006, there were 3,211 participants in the Colorado program with 4.6 MW of peak demand reduction and 3,099,000 kWh of electricity savings as a result (at the generator). A program along these lines should be save more energy per participant and have a better benefit-cost ratio in southern New Mexico where cooling loads are higher than in Colorado. Based on the experience in Colorado, I recommend an initial target of 600 evaporative cooling rebates per year with an annual program budget of about $200,000. I estimate a program of this size should result in about 750,000 kWh of first year electricity savings (at the generator) in the SPS service territory.

Q. □

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A. SPS has not proposed programs to upgrade the energy efficiency of either new residential or new commercial buildings. However, it is easier and more cost-effective to install energy efficiency measures when a building is being constructed, rather than trying to install such measures via retrofit. Other utilities in the region have found that it is cost effective to implement energy efficiency programs for new construction. PNM is implementing and ENERGY STAR new homes program as part of its initial set of DSM programs. Xcel Energy is implementing effective energy efficiency programs for new commercial buildings in its CO and MN service areas, and has won awards for their programs. For example, Xcel Energy’s Energy Design Assistance program for new commercial and industrial buildings received an Exemplary Program award from ACEEE in both 2003 and 2007. I recommend that the PRC direct SPS to develop and propose both residential and commercial new construction programs for year two of its DSM activities, assuming such programs are cost effective.

Q. [redacted]

A. Attachment HG-3 summarizes my DSM program recommendations and compares them to SPS’s proposed programs in terms of budget and first year energy savings. I am recommending expansion of the home lighting and low-income programs, along with three new programs (residential refrigerator recycling and evaporative cooling, and a business direct installation program). In addition, I am recommending that a higher budget be approved for the business custom efficiency program. In addition, I am including an extra $60,000 for program planning and development. Overall, I am recommending a total budget of about $2.84 million, approximately 56% more than the $1.82 million proposed by SPS (including 2007 planning costs). With my new
and expanded programs, I estimate that the first year energy savings will be
approximately 17.79 GWh per year, 58% greater than the 11.26 GWh per year based
on the programs proposed by SPS (savings at generator). In general I am
recommending a much closer balance between residential and business programs in
terms of budget and energy savings.

Q. WHAT LEVEL OF ENERGY SAVINGS ARE YOU PROPOSING AS A FRACTION OF ELECTRICITY SALES, AND HOW DOES THIS COMPARE TO THE LEVEL OF ENERGY SAVINGS FROM DSM PROGRAMS IN XCEL ENERGY'S OTHER JURISDICTIONS?

A. The level of energy savings I am recommending, about 16.4 GWh per year at the
customer level, represents about 0.75% of SPS’s projected electricity sales to
residential, commercial, small industrial and municipal customers in 2008. This
estimate excludes sales to large industrial customers which represent about 44% of
SPS’s total electricity sales. For comparison, Xcel Energy has achieved 0.75%
savings, or greater, annually from its DSM programs in Minnesota for many years. In
addition, Xcel Energy has proposed achieving close to this level of energy savings
from its DSM programs in Colorado. Thus, Xcel Energy (SPS’s parent company) has
demonstrated the ability to achieve this level of energy savings in other jurisdictions.

Q. HAVE YOU ESTIMATED THE COST AND BENEFITS OF THE NEW AND EXPANDED DSM PROGRAMS YOU ARE PROPOSING?

A. I have not performed such an analysis. But I believe all of the new and expanded
programs will be cost effective. Increasing the number of CFLs disseminated through
the home lighting and low income programs will be very cost effective given the
characteristics of this technology. Likewise, refrigerator recycling and promotion of
evaporative cooling has proven to be cost effective in other utility service areas.
Therefore, implementing the new and expanded DSM programs I am recommending
will add to the net economic benefits projected from the programs proposed by SPS
and thereby further benefit consumers in the SPS service territory.
Q. WHAT ARE THE EQUITY IMPLICATIONS OF THE NEW AND EXPANDED DSM PROGRAMS YOU ARE PROPOSING?

A. All customers pay for DSM programs through the tariff rider adopted in New Mexico and all customers realize benefits over the long run when costly supply side investments are reduced or deferred. But customers who participate in the programs will realize short term benefits as well. My proposal will greatly expand the total number of participants in the DSM programs by increasing the number of CFLs disseminated both through the home lighting and low income programs, and by adding new programs pertaining to refrigerator recycling, evaporative cooling, and direct installation of efficiency measures in small businesses. Thus the overall equity of the programs will be enhanced if my proposed programs are approved.

Q. HAVE YOU REVIEWED SPS'S PROPOSED INCENTIVE MECHANISM?

A. Yes, I have. That mechanism would allow SPS an incentive payment equal to 15% of the net economic benefits achieved by its energy efficiency programs; i.e. is a shared savings approach. The incentive would begin in 2010, based on the actual results of the programs implemented in 2008 and evaluated in 2009. The incentive payment that SPS estimates for the programs it is proposing to implement in 2008 is $439,849.

Q. DO YOU SUPPORT THE TYPE OF INCENTIVE PROPOSED BY SPS?

A. Yes I do, but I have a number of suggestions for modifying and improving the specific mechanism proposed by SPS (see below). Before making these suggestions, I note that the shared savings approach has been successfully implemented in Minnesota for many years as pointed out in witness Sundin’s testimony. It is also the type of incentive mechanism that Xcel Energy has proposed in conjunction with expanded electricity DSM programs in Colorado. It is a reasonable approach for providing a performance-based incentive to utilities when they implement effective
energy efficiency programs for their customers.

Q. WHAT CONCERNS DO YOU HAVE ABOUT THE SPECIFIC INCENTIVE MECHANISM PROPOSED BY SPS AND WHAT SUGGESTIONS DO YOU HAVE FOR ADDRESSING THESE CONCERNS?

A. First, the incentive mechanism proposed by SPS does not contain a cap on the amount of incentive. I suggest that such a cap be adopted by the PRC, in particular a cap equal to 30% of utility expenditures for DSM in the year for which any incentive is awarded. This will protect consumers from paying an excessive incentive relative to the amount spend on DSM programs. This is the same incentive cap that is in place for Xcel Energy’s Minnesota subsidiary (see SPS response to staff data request SPS 1-17).

Second, the incentive proposed by SPS gives the utility an incentive to maximize net economic benefits but not necessarily an incentive to maximize energy savings and peak demand reduction. I recommend a tiered incentive approach along the following lines to remedy this shortcoming:

<table>
<thead>
<tr>
<th>Energy Savings Achieved Relative to Annual Goal</th>
<th>Incentive as a Fraction of Net Economic Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>100 – 120</td>
<td>5</td>
</tr>
<tr>
<td>120.1 – 140</td>
<td>10</td>
</tr>
<tr>
<td>140.1 – 160</td>
<td>15</td>
</tr>
<tr>
<td>&gt; 160.1</td>
<td>20</td>
</tr>
</tbody>
</table>

This tiered incentive proposal awards the utility a larger share of the net economic benefits if the utility is able to achieve energy savings greater than the annual goal, and no incentive if the annual goal is not met. There is an opportunity to earn an incentive, but not a guaranteed incentive. In addition, the cap on the incentive of no more than 30% of annual DSM program expenditures would apply in my proposal. The incentive would be determined by the PRC based on monitored and verified program results. This tiered incentives approach is similar to what Xcel
Energy has in place in Minnesota and has proposed for its DSM programs in
Colorado.

This approach depends on defining an energy savings goal each year. The
time savings goal I am suggesting for SPS’s energy efficiency programs in 2008 is
first year savings of 17.79 GWh per year, measured at the generator, per my proposal
for some additional and expended programs (see Attachment HG-3). SPS would only
get an incentive if it achieved this amount of energy savings, or greater.

Third, the shared savings approach requires valuation of the net economic
benefits resulting from DSM programs, which in turn requires assumptions about
avoided costs. Estimation of avoided costs can be a contentious issue. In order to
minimize the potential contentiousness surrounding this issue, I recommend that the
PRC issue guidelines on avoided cost evaluation and then establish fixed values for
avoided generation costs, avoided T&D costs, and avoided marginal energy costs for
SPS to assume. These values could be determined as part of the next Integrated
Resource Planning (IRP) docket, and then revised when future IRP dockets are
completed. The same could be done for other utilities which propose the shared
savings approach for overcoming disincentives to DSM programs.

Q  ■
Yes, I have an alternative incentive proposal for the PRC and other parties to
consider. It relies upon explicit and known inputs, drawn from the Company’s most
recent rate case order, and may be appropriate if the Commission has concerns with
the shared savings approach. The only findings that must be made for this alternative
are SPS’ measured and verified savings.

Q  ■
The alternative is performance-based, like the shared-savings approach, and would award SPS an annual incentive equal to its measured and verified demand and energy savings multiplied by the Company’s latest approved equity return (ROE x Ratebase x equity capitalization %). I would weight energy and demand savings 75/25. Like the shared savings approach this approach is based on measured and verified demand and energy savings. But it is simpler in that it does not depend upon assumptions regarding avoided costs or estimation of net economic benefits. The incentive under this alternative is comparable in dollar value to that proposed by SPS, but is driven by the amount of demand and energy savings achieved, rather than by economic benefits.

This approach allows SPS an incentive that is intended to offset the utility’s financial motivation to develop supply side resources over demand side resources. In order to achieve that, this alternative roughly mimics the return on equity the Company would receive if it built supply rather than reduced its load through DSM programs, and the build out was equal to the embedded cost of plant in service. While I realize that the marginal cost of resources is often higher than embedded costs, and that this approach does not account for lost recovery of fixed costs, potentially leaving some utility disincentives in place, I believe it offers a reasonable performance-based incentive considering that SPS is also allowed contemporaneous, low risk, recovery of DSM expenditures through a tariff rider.

Q  

A Yes, here is how the numbers would look, given the assumptions in SPS’ filing, and information from the Company’s currently pending New Mexico rate case. In its filing SPS proposes that it receive an incentive payment of $439,849 (presumably
after tax) (Sundin at p.40). This is for demand savings of 4.3 MWs and energy
savings of 11.3 GWh per year of energy (at the generator) (Sundin at pp.37-9). The
savings last for 13 years on average. (Sundin at p.39).

Using the Ratebase/ROE proposal that I have described instead of SPS's
shared savings approach, yields the following incentive payments (with numbers
from SPS's current rate case):

SPS NM ratebase equals $307,254,366 (Sch.A-1, A-4)
SPS has proposed an 11.0 ROE (Sch. A-5 p.1)
Equity capitalization = 50.78% (Sch. A-5 p.1)
SPS current NM energy consumption = 4,232 GWhs (Attch. JCJ-1, p. 1 of 1)
SPS current NM demand = 628 MWs (Attch. JCJ-1, p.1 of 1)
So, energy savings = 11.3/4232 = 0.27% and demand savings = 4.3/628 = 0.68%,
and the 75/25 blended savings = 0.3725%
Incentive = 0.003725 x (0.5078 x 0.11 x $307,254,366) = $63,930/yr

The present value of this incentive, with an 8.5% discount rate for 13 years is
$491,682 - a little higher, but very similar to, what SPS has proposed for its incentive.

Of course, the actual incentive value would vary depending upon the discount rate
used and the final ROE allowed in SPS’ pending rate case. In this approach, the
incentives are provided each year over the assumed lifetime of the efficiency
measures, rather than as a one-time incentive payment after the programs are
implemented and evaluated.

Q

A No, both the shared savings approach and the alternative incentive mechanism
proposed above attempt to overcome the disincentive by providing a performance-
based bonus to the utility for implementing effective DSM programs. The energy
savings resulting from DSM programs still reduces the kWh sales and thus threatens
the utility’s fixed cost recovery, and hurts the utility financially, at least in between
rate cases. Therefore, I recommend that the PRC still consider ways for addressing
this disincentive, in addition to providing a positive incentive along the lines
suggested above (either the shared savings approach or my suggested alternative).

Q

A. Yes.
Exhibit HG-1

Members of the Coalition for Clean Affordable Energy (CCAE)

Center for Advancing Sustainable Architecture
Community Action New Mexico
Environment New Mexico
Natural Resources Defense Council
New Mexico Citizens for Clean Air and Water
New Mexico Council of Churches
New Mexico Public Interest Research Group
New Mexico Solar Energy Association
Physicians for Social Responsibility
Rio Grande Chapter of the Sierra Club
Southwest Energy Alliance
Southwest Energy Efficiency Project
Southwest Research and Information Center
Western Resource Advocates
Exhibit HG-2

Statement of Qualifications

Howard Geller

Dr. Howard S. Geller is the Executive Director of the Southwest Energy Efficiency Project (SWEEP), a public interest venture he founded in 2001. Based in Boulder, Colorado, SWEEP promotes policies and programs to advance energy efficiency in Arizona, Colorado, Nevada, New Mexico, Utah, and Wyoming.

Dr. Geller is the former Executive Director of the American Council for an Energy-Efficient Economy (ACEEE). He established ACEEE’s Washington, D.C. office in 1981, stepping down as Executive Director in February 2001. He built ACEEE’s reputation and influence through technical and policy assessments, advice to policy makers, development of energy efficiency programs, consumer guides, and conferences.

Dr. Geller has advised and conducted energy efficiency studies for utilities, governmental organizations, and international agencies. He has testified before the U.S. Congress on energy issues many times and has influenced energy legislation including the National Appliance Energy Conservation Act of 1987 and the Energy Policy Act of 1992. He has served as an expert witness on energy efficiency and resource planning issues before the utility commissions of Colorado, Illinois, Maryland, and the District of Columbia.

Dr. Geller is author or co-author of four books. His most recent book, *Energy Revolution: Policies for a Sustainable Future*, was published in 2003 by Island Press. In addition to his work in the United States, Dr. Geller has spent over three years working on energy efficiency issues in Brazil. He helped to start and frequently advises Brazil’s National Electricity Conservation Program (PROCEL).

Dr. Geller was awarded the 1998 Leo Szilard Award for Physics in the Public Interest by the American Physical Society in recognition of his contributions to national appliance efficiency standards and more efficient energy use in general. In 2007, Dr. Geller received the Mary Kilmarx award from the National Association of Regulatory Commissioners (NARUC). Dr. Geller is a member of the editorial advisory board for the journal *Energy Policy*.

Dr. Geller received his PhD in Energy Policy from the University of Sao Paulo in Brazil in 2002. He holds a Masters degree in Mechanical and Aerospace Engineering from Princeton University (1979) and he received a Bachelors degree from Clark University (1977) where he majored in Physics and Science, Technology, and Society.
### Exhibit HG-3

Comparison of DSM Programs Proposed by SPS and CCAE

<table>
<thead>
<tr>
<th>Program</th>
<th>SPS Budget (1000$)</th>
<th>SPS Electricity Savings (GWh/yr)</th>
<th>CCAE Budget (1000 $)</th>
<th>CCAE Electricity Savings (GWh/yr)</th>
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<td>300.0</td>
<td>1.200</td>
</tr>
<tr>
<td>Evaporative Cooling</td>
<td>--</td>
<td>--</td>
<td>200.0</td>
<td>0.750</td>
</tr>
<tr>
<td>Residential Subtotal</td>
<td>(549.8)</td>
<td>(2.854)</td>
<td>(1,169.5)</td>
<td>(7.069)</td>
</tr>
<tr>
<td>Low Income</td>
<td>197.1</td>
<td>1.556</td>
<td>247.1</td>
<td>2.756</td>
</tr>
<tr>
<td>Business Cooling Eff.</td>
<td>130.3</td>
<td>0.249</td>
<td>130.3</td>
<td>0.249</td>
</tr>
<tr>
<td>Business Custom Eff.</td>
<td>263.5</td>
<td>4.609</td>
<td>378.5</td>
<td>4.609</td>
</tr>
<tr>
<td>Business Lighting Eff.</td>
<td>319.1</td>
<td>1.984</td>
<td>319.1</td>
<td>1.984</td>
</tr>
<tr>
<td>Business Direct Install</td>
<td>--</td>
<td>--</td>
<td>175.0</td>
<td>1.120</td>
</tr>
<tr>
<td>Business Subtotal</td>
<td>(712.9)</td>
<td>(6.843)</td>
<td>(1,002.9)</td>
<td>(7.962)</td>
</tr>
<tr>
<td>Other (2)</td>
<td>359.9</td>
<td>--</td>
<td>419.9</td>
<td>--</td>
</tr>
<tr>
<td>Overall Total</td>
<td>1,819.7</td>
<td>11.257</td>
<td>2,839.7</td>
<td>17.787</td>
</tr>
</tbody>
</table>

(1) First year electricity savings at the generator.
(2) Other includes planning and product development in 2007 as well as planning and research costs in 2008.