Utah Demand Side Management and Other Resources

Benefit and Cost Analysis

Guidelines and Recommendations

Rocky Mountain Power
Utah Demand Side Management Advisory Group

Table of Contents

Executive Summary

Since 1995, the electric utility industry and demand side resource acquisition have experienced significant change. Rocky Mountain Power (Company), the Utah Demand Side Management Advisory Group (Advisory Group) and the Utah Public Service Commission (Commission) have continued to rely on the guidelines in the 1995 "Demand Side Resource Cost Recovery Collaborative, Final Report to the Commission, Appendix VII" to review demand side programs and options.

The Commission recognized the need to revise the 1995 report in its order approving Docket No. 07-035-T04, which was issued on April 2, 2007, and directed the Company, the Division of Public Utilities (Division), and the Advisory Group to work on recommendations for the Commission's consideration that will clarify the overall demand side management (DSM) design, approval, implementation, and evaluation processes.

Changes that precipitated the need for revisions to the 1995 report include:

- Changes in energy efficiency program design.
- Improved program savings, cost and avoided cost data.
- The absence of available economic tests appropriate for small-scale renewable generation.
- Coordination with Questar Gas Company energy efficiency programs.
- Increased expenditures on energy efficiency and the implementation of Schedule 193, DSM tariff rider for cost recovery.

- Heightened state policy on energy efficiency including Governor Huntsman's goal of increasing energy efficiency in the state of Utah 20 percent by 2015.

- The Federal Energy Independence and Security Act of 2007 (H.R. 6), was adopted requiring electric utilities to: "(A) integrate energy efficiency resources into utility; State, and regional plans; and (B) adopt policies establishing cost-effective energy efficiency as a priority resource."[1]

- The potential of some form of carbon regulation on a regional, national and international scale.

The Company and the Advisory Group have reviewed the 1995 report taking into consideration these changes in the current demand side resource environment. The Company and the Advisory Group find that the 1995 report is still generally valid today and recommend the following updates:

- The current California Standard Practice Manual (SPM) should continue to be the source for the basic definitions of the economic tests with modifications as necessary to reflect Utah specifics.

- All five economic tests are useful in understanding program effectiveness; however, the Utility Cost Test is recommended as the threshold test in determining program prudence.

- The Company and the Advisory Group recommend redefining the stages of demand side resource acquisitions and reducing the number of stages from five to three.

- The Company will provide all five economic tests at two stages; 1) Program Approval and Prudence Review; and 2) Performance Reporting.

[1] http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=110_cong_bills&docid=f:h6enr.txt.pdf

- The Commission maintains its discretion to approve programs that are in the public interest.

- The Company will analyze DSM including development of supply curves based on the utility's resource cost of bundled measures for the Planning stage.

- To minimize variations in calculation methodology between Utah program evaluations and the SPM, the Rate Impact Measurement calculation should be changed to include full rate impacts over the life of the demand side resource.

- Economic tests should be applied at the program level unless evaluating supporting "cost only" initiatives under which case a portfolio level is most appropriate.

- Strategic communications and outreach initiatives (training, education, awareness, sponsorship, etc.) should not be subject to economic tests. However, the Company and the Advisory Group believe that the portfolio of programs including costs associated with these initiatives must remain cost effective to demonstrate prudence.

- Prudence should be determined at the Program Approval stage. Programs that are determined to be non-cost effective at the Performance Reporting stage should be modified, justified (e.g. start-up or multi-year program) or cancelled.

- The integrated resource plan (IRP) decrement approach or modeling inputs and assumptions consistent with the IRP should be used to develop avoided costs.

- Absent more appropriate economic tests, small-scale renewable resources may be evaluated on the same basis as energy efficiency and load management. The

Commission may approve small-scale renewable resource projects that fail one or more of the economic tests but are determined to be in the public interest.

Introduction

This document proposes recommendations that update the performance standards from the 1995 "Demand Side Resource Cost Recovery Collaborative Final Report to the Commission"[2] as requested by the Commission. The purpose of the recommendations is to reflect current demand side resource acquisition practices in Utah and assist in streamlining the program approval process.

This document is designed to provide Rocky Mountain Power, Utah regulators and other interested parties the guidelines, equations and inputs necessary to assess cost effectiveness of current and proposed demand side management resources, including small-scale renewable resources.

Background

In Docket No. 92-2035-04 "*In the Matter of Rate Making Treatment of Demand-Side Resources and the Analysis of Regulatory Changes to Encourage Implementation of Integrated Resource Planning"* in February 1994, the Commission provided a directive to develop performance standards. The Performance Standards Subcommittee defined the following goal:

> *"To recommend to the Commission the adoption of consistent methods and standards by which demand side resource acquisitions are determined to be in the public interest. To this end, we will define and recommend DSR performance standards which employ consistent methods and provides guidelines for the Company and Regulators for integrated resource planning, DSR program approval, evaluation and cost recovery purposes."*

[2] Demand Side Resource Cost Recovery Collaborative, Final report to the Commission, Appendix VII, March 31, 1995, Docket No. 92-2035-04

Three additional tasks were assigned to the Performance Standards Subcommittee in the Demand Side Resource Evaluation Task Force Final Report to the Commission dated May 20, 1994.

- *Determine what methods are most appropriate for evaluation of the success of the DSR programs.*
- *Determine what perspective should be taken when evaluating cost effectiveness of such measures and programs.*
- *Determine how demand side resources can be consistently compared to supply side resources.*

In the 1995 report, the DSR Performance Standards Subcommittee identified five stages in the process of demand side resource identification and acquisition and recommended the application of all five cost effectiveness tests identified in the California Standard Practice Manual (SPM). The five stages of demand side resource acquisition identified were:

1. ***Planning:*** *where demand and supply side resources are evaluated to meet forecasted load growth;*[3]

2. ***Implementation:*** *when specific programs, tariffs, and contracts are proposed and reviewed for approval;*

3. ***Acquisition:*** *when measure funding limits are established and DSR energy service charge and other acquisition contracts are signed;*

[3] In the 1992 "Report and Order on Standards and Guidelines for Integrated Resources Planning for PacifiCorp" the Commission states "that the integrated resource planning process must evaluate all known resource on a consistent and comparable basis in order to meet current and future customers electric energy service needs at the lowest total cost to the utility and its customers". The Order further defined lowest cost as "the Total Resource Costs defined as the discounted sum of the direct costs of production and consumption of electric energy services incurred by the utility and its ratepayers".

4. ***Evaluation****: where actual costs and verified energy savings estimates are available; and,*

5. ***Cost recovery:*** *when DSR acquisition costs are evaluated for recovery of costs.*

The five recommended tests[4] which include two variations of the TRC test are:

- The **Utility Cost (UC)** test (also called the Program Administrator test) evaluates the effect of the DSR acquisition on revenue requirements. Passing the UC test indicates that the costs of the demand side resource that is recovered through rates is lower than a utility's avoided cost. The UC test does not include the costs borne directly by customers.

- The **Participant Cost (PC)** test evaluates the costs and benefits from the participants' perspective. Passing the PC test indicates that the participant's bill will be reduced by more than the cost incurred by the participant for the demand side resource.

- The **Ratepayer Impact Measure (RIM)** test traditionally measures what happens to average total system cost per kWh due to changes in utility sales and operating costs caused by the program. The test indicates the direction and magnitude of the expected change in average system rate levels. The test can also provide the cost per kWh required to reset revenues with revenue requirements over the life of the DSM program. Failing to pass the RIM test indicates that prior to a rate change utility revenues will decline. Subsequent to a rate change the impact is an increase in rates. This test traditionally indicates the impact on the system wide non-

[4] The California Standards Practice Manual contains an additional test - the Societal Cost (SC) test is a variation on the TRC that attempts to quantify the changes in the total resource costs to society, including both external costs and benefits. Externalities that could be included are: avoided T&D costs, avoided generation, increased system reliability, avoided environmental costs, non-energy benefits such as increase cost of carbon, and adapting to climate change, increased comfort in buildings and increased jobs, etc.

participants' average bill. The Subcommittee adopted a Utah version of the RIM test, referred to as **URIM,** which includes only the first year rate impact.

- The **Total Resource Cost (TRC)** test compares the total cost of the demand side resource to the total cost of a supply side alternative. Passing the TRC test indicates that the demand side resource is less expensive than a supply side alternative, considering both the costs borne through rates and the costs borne directly. There are two versions of the TRC test[5]:

- PacifiCorp TRC **(PTRC)** test follows a Northwest convention of adding 10% to the avoided costs to account for un-quantified environmental and T&D impacts.

Currently, the TRC test is used to screen measures for consideration at the planning stage. All five tests are provided to the Commission in the implementation, acquisition and evaluation stages. With rare exception, all programs have passed each test.

Since the 1995 work, the electric industry and demand side resource acquisition have experienced significant change. The Company, Advisory Group and the Commission have continued to rely on the guidelines in the 1995 work to review demand side programs and options.

The Commission recognized the need to revise the work in its order approving Docket No. 07-035-T04, which was issued on April 2, 2007, and directed the Company, the Division of Public Utilities (Division), and the Advisory Group to work on recommendations for the Commission's consideration that will clarify the overall DSM design, approval, implementation, and evaluation processes.

[5] An additional variation of the TRC is the Societal Cost Test, which includes environmental and other societal benefits to the avoided costs.

In response to the Commission's direction and in preparation for this work, the Company convened the Advisory Group on September 17, 2007 and again on October 13, 2007 to identify needed changes, policy issues and the proposed framework for the revised work. This topic was also addressed during an October 1, 2008 meeting of the Advisory Group where there was acknowledgement that the proposed process identified in prior meetings to address relevant issues was still appropriate. A last meeting was held on April 13, 2009 where the draft recommendations were reviewed for a final time and minor adjustments were suggested and incorporated.

Changes Since Original Guidelines – Delivery of DSM Programs

Since the 1995 work was completed several changes have occurred in the delivery of demand side management programs in Utah. The following is a brief summary of the highlights.

- Programs have been designed to use incentives rather than loans in order to achieve increased participation levels. This has changed the utility costs of programs and removed the acquisition stage in which measure funding limits for loans are established.

- The avoided supply costs used for demand side resource economic analysis were specified as PURPA qualifying facility rates in the 1995 work. Since the 2003 IRP the decrement analysis approach[6] combined with the introduction of supply-curves and greater reliance on resource planning assumptions and integrated resource modeling have been used to identify the avoided costs for the analysis of demand side management.

[6] The decrement analysis approach determines the specific value of a DSM measure to the Company through the IRP process. The IRP model is calculated both with and without the measure or program being evaluated and the decrement in cost associated with the measure or program is the cost avoided by the measure.

- The 1995 Report focused on energy efficiency and load management. The applicability of these tests to other resources, such as renewable on-site generation was not addressed.

- Improved information, data and modeling related to energy savings, load impacts, performance and costs of demand-side resources is available.

- Planning for DSM resources is evolving. An example is the use of DSM supply curves in the 2007 IRP for load management resources and current IRP for both load management and energy efficiency resources. Estimation of the operating costs associated with environmental regulation is also evolving. DSM program evaluation practices continue to improve further improving the planning assumptions.

- Questar Gas Company is providing incentives for most gas measures, and program coordination opportunities drive more sophisticated planning assumptions such as measure cost allocations for equipment or appliances eligible for both electric and gas incentives.

- Program expenses are recovered via tariff rider adjustments on a periodic basis rather than through general rates. With implementation of Schedule 193, the tariff rider mechanism, the de facto “prudence review” has taken place through parties’ analysis & recommendations in response to filed DSM program tariffs.

- Program performance and prudence review of DSM expenditures takes on greater importance given an expected expansion of the overall DSM portfolio and consequent impacts on the tariff rider.

Changes Since Original Guidelines – Policy Changes

Since the 1995 work was completed, numerous policy changes have taken place in Utah as well as nationally, including:

- The State Energy Policy (Utah Code § 63M-4-301) states that it is the policy of Utah to pursue energy conservation and energy efficiency.[7]
- Governor Jon Huntsman, Jr. has set a goal of increasing energy efficiency in the state of Utah 20 percent by 2015.
- The Federal Energy Independence and Security Act of 2007 (H.R. 6), was adopted requiring electric utilities to: "(A) integrate energy efficiency resources into utility, State, and regional plans; and (B) adopt policies establishing cost-effective energy efficiency as a priority resource."[8]
- Many believe some form of carbon regulation is eminent on a regional, national and international scale.

Recommended Changes to Current Practice

This document recommends changes to the stages of resource acquisition, an alignment of the economic tests with the current SPM including a clear definition of any Utah specific conventions related to use of the SPM, recommendations on how cost effectiveness is assessed, and appropriate avoided costs.

Changes to Stages

The Company and the Advisory Group recommend redefining the stages of demand side resource acquisitions and reducing the number of stages from five to three. The redefined stages are as follows:

[7] http://le.utah.gov/~code/TITLE63M/htm/63M04_030100.htm
[8] http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=110_cong_bills&docid=f:h6enr.txt.pdf

- **Planning –** remains the same as the 1995 definition. However, IRP scenario and risk analysis is more sophisticated than in 1995 resulting in better identification of appropriate DSM opportunities.

- **Program Approval and Prudence review** – the regulatory filing and approval process during which the program tariffs are reviewed and approved by the Commission. This includes the case for both new programs and modifications to existing programs. (replaces implementation and cost recovery stages)

- **Program Performance Reporting** – analysis of an operating program when actual costs and reported savings are available. This stage also includes third party evaluations and self-directed project analyses. (replaces acquisition and evaluation stages) and includes submittal of an annual report no later than March 31st of the following year

The Company and Advisory Group recommend that the current version of the SPM continue to provide the basis for the economic assessment of DSM programs in Utah with modifications as necessary to reflect Utah specific conditions. A copy of the SPM is included in Attachment A to this recommendation document.

Application of Economic Tests

Each of the five economic tests provides valuable information related to the effectiveness of DSM programs. The Company and Advisory Group recommend that the Company continue to provide all five tests at the Program Approval and Prudence Review and Performance Reporting stages. Approval of individual DSM programs or portfolios of programs should be based on an overall determination that the program or portfolio is in the public interest after consideration of all five tests and the passage of the threshold test, the UC test.

Information is not generally available in sufficient detail to provide all five tests at the Planning stage. The Company and Advisory Group recommend that the Company analyze DSM opportunities during the Planning stage based on the UC test. The IRP process will consider only utility costs in the development of DSM supply curves used in the identification of DSM opportunities within the Planning stage.

A brief description of the application of each of the tests follows.

UC Test

The UC test measures the net costs of a demand side management program based just on the cost incurred by the utility and *excludes* any net costs incurred by the participant.

The benefits for this test consist of avoided supply costs utilizing the net program savings impacts; i.e. savings net of the changes in energy use that would have occurred in the absence of the program. The costs for the utility test are the administrative costs of the program and any incentive paid to participants.

The UC test directly captures the revenue requirement impact of a demand side resource because the UC test only includes the costs borne by the Utility. Consequently, utilizing this test can help determine which program designs have the least impact on Company costs.

TRC Test

The TRC test[9] measures the full net costs of a demand side program and is most often used to compare the costs of a demand-side resource with a supply side resource. The costs of a supply side resource are typically borne in full by the customers through rates, either through the operating costs and return on and of the investment if the resource is owned by the utility, or through the price of purchased power. The costs included in the

[9] For purpose of discussion we are referring to all three variations of the Total Resource Cost test (PacifiCorp, Utah and Societal) jointly.

TRC test are the full costs borne by the utility including administrative costs of the program and the costs of the DSM measures, and the costs incurred by customers directly participating in the program.

The benefits for this test consist of avoided supply costs utilizing the net program savings impacts; i.e. savings net of the changes in energy use that would have occurred in the absence of the program[10]. The TRC test indicates whether a supply side or demand side resource is less costly regardless of who is paying for the resource.

PC Test

The PC test measures the net costs of a demand side management program based just on the cost incurred by the participant.

The benefits for this test consist of the reduction in the participant's bills. The costs for the participant test are the costs borne by the participants, i.e. the total measure costs less any incentives provided by the utility.

Generally, the PC test is used to determine whether the program design will be attractive to participants. One clear factor that influences the utility cost and the participant cost tests is the level of incentives. Incentives increase the cost of the utility cost test but decrease the cost of the participant cost test. Setting incentives at a level that encourages adequate program participation, while minimizing utility cost is one of the challenges of program design.

While it can be a useful tool in program design, the PC test should be accorded little weight in decisions regarding whether or not a program should be approved. Its importance as part of the prudence review should be limited to a determination of whether incentive levels are appropriate. Experience has shown that individuals often

[10] As noted previously, the PacifiCorp TRC includes a 10% adder to the benefits and the Societal TRC includes additional environmental and societal benefits. Colorado recently ordered the use of a "Modified TRC" that also includes the impacts of environmental and societal benefits.

take measures that have poor individual economic benefits but that provide collective benefit to ratepayers. Programs or measures that reward altruistic customer behavior should not disfavored for failure to meet PC test.

RIM Test

The RIM test measures the impact on average rates. While this test does not measure the cost effectiveness of a DSM program, it does present information that is useful in program design.

The benefits for this test consist of avoided supply costs utilizing the net program savings impacts; i.e. savings net of the changes in energy use that would have occurred in the absence of the program. The costs for the RIM test are the administrative costs of the program, the costs of the DSM measures, and the revenue impact of the kWh saved.

The 1995 report included only the first year's net revenue impact in the calculation of the RIM test. This formulation was a proxy for lost revenues rather than a measurement of the rate impact over the life of the DSM programs. To minimize variations in calculation methodology between Utah program evaluations and the SPM, the Rate Impact Measurement calculation should be changed to include full rate impacts over the life of the demand side resource.

At What Level Should the Tests be Applied?

Planning

In the 2008 IRP, the Company continued the migration to the use of supply curve methodology to provide demand side resources for the IRP model to compare with supply side resources.[11] For energy efficiency, these supply curves are provided on a

[11] Proxy supply curves for load management resources were utilized in earlier IRPs.

measure[12] basis for the model to evaluate. For load management, these resources are provided on a program basis.

Measure level analysis includes the full costs and energy savings impacts from the measure. As such, the supply curves represent the total resource cost test required by the Commission for integrated resource planning. The IRP process selects measures that meet the IRP criteria of least cost adjusted for risk. Programs are then developed based on these measures. The Company and the Advisory Group recommend that the supply curves be developed using the utility rather than total resource costs.

Program Approval and Prudence Review

At the Program filing stage, measures are bundled into a comprehensive program. For example, lighting, HVAC, cooking equipment and controls may all be part of a prescriptive commercial incentive program. The cost effectiveness of the program is measured by all five tests taking into account the costs and benefits of all of the measures included in the program as well as the administrative costs, marketing costs and customer incentive levels. In order to expedite the program approval process, the Company will include in program filings a copy of the cost effectiveness analysis spreadsheet and all supporting documentation for program costs and savings estimates at the program and measure or measure group levels.

The Company and Advisory Group recommend judging cost effectiveness at the program level rather than the measure or measure group level and that the Commission exercise judgment based on a review of all five tests in the determination of program effectiveness, with emphasis placed on the UC test as the threshold test for cost-effectiveness in the assessment of program prudence. There are instances where individual measures may not be cost effective on their own, but enhance the overall program. Including these measures may increase overall program participation, encourage market adoption of emerging

[12] Measures are bundled together based on load shapes and measure lives to reduce the absolute number of resource options that are modeled in the IRP process.

technologies and result in more comprehensive energy efficiency installations. The Company will provide information from the application of the economic tests to measures or groups of measures within a program. Where individual measures fail one or more of the tests, the Company will provide sufficient justification for including the measure as part of the overall program.

Performance Reporting

At the Performance Reporting stage, the Company and Advisory Group recommend that the Company provide all five tests at the program level. Costs should be based on verified Company accounts. Savings should be based on evaluated estimates where available and on program planning estimates prior to an evaluation. Measure level analysis and results will be provided at the Performance Reporting stage for informational purposes.

Portfolio Analysis

The Company and Advisory Group recommend adding a portfolio view of cost effectiveness to the current measure and program views. The portfolio view will include the program costs and savings as well as training, education, awareness and sponsorship initiative costs that support program participation and encourage consumers to make behavioral changes that reduce consumption; all activities which play an integral part in the acquisition of least cost demand side management resources. However, the savings contributions derived from these supporting aspects of the overall DSM initiative is typically captured in increased program participation and market effects. As such it is difficult, and often too expensive, to accurately segregate and determine the specific savings. Therefore, the Company and Advisory Group recommend that the Commission require the DSM portfolio be cost effective as a whole, including these costs, rather than requiring a separate cost effectiveness analysis for each of these efforts.

Avoided Costs and Value of Energy Saved

The 1995 report specified the use of PURPA qualifying facility rates for avoided supply costs. In early 2000 electric price volatility focused attention on the hourly distribution of

DSM savings. Programs that saved energy at the time of high prices were more valuable than those that saved energy off-peak or during shoulder seasons. It became apparent that the capacity/energy approach of the PURPA rates was not as valuable as an hourly avoided cost for determining the cost effectiveness of a DSM program. The Company addressed this issue by first utilizing hourly market price forecasts and then the IRP decrement valuation approach.

In the preparation of the 2003 IRP, the decrement analysis approach was proposed by Dave Nichols of the Tellus Institute[13] and adopted by PacifiCorp's IRP team. Under the decrement analysis, the IRP model is run both with and without generic DSM program savings assumptions. The decrement in costs between the two IRP runs is the value of that generic DSM program[14]. Actual program designs can then be tested using the values derived from the generic decrement analysis. The decrement approach to value demand side resources was also used in the Company's 2004 and 2007 integrated resource plans and is more fully described in the 2007 IRP[15].

The 2008 IRP utilizes supply curves for both energy efficiency and load management resources to compare to supply side resource options. Avoided costs specific to demand side resources generated by the IRP, either through a decrement process, a "break point" analysis of supply curve resource selections or modeling using inputs and assumptions consistent with the IRP generated by the IRP modeling team are recommended to be used in calculations of the five SPM tests.

The Company and Advisory Group recommend that the Commission require the Company to continue using the decrement values or modeling utilizing inputs and assumptions consistent with the IRP process to value DSM in the cost effectiveness analysis.

---

[13] Costing Energy Resource Options: An Avoided Cost Handbook for Electric Utilities, Tellus Institute, Boston MA September 1995, Section II -10

[14] An example of a generic program would be a hypothetical commercial lighting program that reduced load by 100 MW shaped according to typical commercial lighting patterns.

[15] 2007 PacifiCorp IRP – p. 136

This recommendation does not preclude the Commission from considering the value of additional externalities that may be identified and quantified when considering the results of the economic tests.

Recommended Cost Effectiveness Performance Standards for Demand Side Resources

The Company and the Advisory Group recommend the Commission consider approval of demand side management programs based on the cost of the resources to the Company, as demonstrated by the UC test. While it is desirable for all five tests to achieve benefit/cost ratios greater than 1.0, several factors contribute to why the passage of all tests is unlikely at the Program Approval and Prudence review stage or at a later stage. These factors include uncertainty surrounding actual measure costs, estimated savings impacts, total administrative cost estimates, and net to gross ratios (an estimate of those that would have undertaken the action absent the presence of the program). Additionally, benefit/cost ratios of 1.0 or greater are not typically expected for the RIM test. The PC test is of limited value in assessing the overall economic prudence of a program as its primary value is in assessing the program's attractiveness from an individual participant's perspective.

Programs with a UC test benefit/cost ratio less than 1.0 presented during the Program Performance Reporting stage should be accompanied by a list of remedial actions to ensure program performance improves (within a reasonable time period), a justification, e.g. start-up or multi-year program, or an action plan for the orderly discontinuation of the program.

The Company may provide and parties may request, sensitivity analysis at the Program Approval and Prudence Review and Program Performance and Reporting stages to test the impacts of changes in key program assumptions. For programs with UC test

benefit/cost ratios less than 1.0 during the Program Performance Reporting stage the Company will provide such sensitivity analysis.

Applicability of the Economic Tests to Other Resources

The 1995 report did not address the application of the economic tests to resources other than energy efficiency and load management. Absent other economic tests, the Company and Advisory Group recommend that the Commission evaluate small-scale renewable resources, such as solar photovoltaic projects, on a similar basis as energy efficiency and load management until other economic tests are available. Specifically, the Company and Advisory Group recommend that the Commission require that all five economic tests be calculated; however, the Commission may approve small-scale renewable programs absent their ability to pass any of the five tests. The Commission may find that a program is in the public interest for reasons other than economic efficiency and approve small-scale renewable resource programs based on other less quantifiable factors. The following information from Oregon on the application of the SPM tests to small-scale renewable resources is provided to illustrate one approach employed within PacifiCorp's service territory for the Commission to consider.

The Energy Trust of Oregon (Trust) has taken a similar approach to that recommended in this document to support small-scale renewable energy projects. The Trust has observed that consumers willingly install small-scale renewable projects that fail the traditional economic tests. Consequently, the Trust believes that consumers are perceiving benefits that are not captured by the tests. In order to quantify those benefits the Trust uses the following approach:

- To achieve energy savings, the Trust assumes the maximum a consumer willingly invests in renewable resources is an amount equal to three years energy savings.
- Non-economic benefits are calculated as the total cost of the project reduced by any tax credits and the value of three years of energy savings.

- The non-economic benefits are included in the calculation of the total resource cost test and the program administrator test.

The Company and the Advisory Group will continue to stay abreast of the development/refinement of economic tests for small-scale renewable programs and may revise the recommendations as warranted.

Miscellaneous Conventions

This section includes conventions about how SPM tests are specifically applied in the Company's Utah service territory:

- The Utility Cost Test has been re-named the Program Administrator Cost Test in the 2001 version of the SPM. Rocky Mountain Power will continue to refer to the test as the Utility Cost Test or UC test.

- The Participant Cost Test results where customer has no quantifiable costs are set to Not Applicable or NA. An example of this case is the refrigerator recycling program, offered through Schedule 117.

- Negative incremental cost treatment – In the case where a program results in negative total participant costs, the negative incremental measure costs will be treated as a program benefit to avoid a negative benefit/cost ratio, which is difficult to interpret. An example of this is the evaporative cooling measure in the Company's Cool Cash air conditioning efficiency program, offered through Schedule 113.

Appendix A – Utah DSM Advisory Group Members

Aaron Lively – Rocky Mountain Power
Abdinasir Abdulle – Division of Public Utilities
Artie Powell – Division of Public Utilities
Becky Wilson – Public Service Commission
Betsy Wolf – Salt Lake Community Action Program
Blake Smith – Questar Gas
Brenda Salter – Department of Public Utilities
Brent Bakker – Questar Gas
Bryan Haney – Nexant
Carol Hunter – Rocky Mountain Power
Carol Revelt – Public Service Commission
Charles Peterson – Department of Public Utilities
Cheryl Murray – Committee of Consumer Services
Chris Keyser – Committee of Consumers Services
Christopher Thomas – Heal Utah
Dan Dent – Questar Gas
Dan Gimble – Committee of Consumer Services
Dan R. Stireman – Murray City
Dave Taylor – Rocky Mountain Power
David Abbott – Hill Air Force Base
David Thomson – Department of Public Utilities
Dianne Nielson – State of Utah, Governor's Office
Don Jones Jr – Rocky Mountain Power
Dr Arjun Makhijani – Heal Utah
Gary Dodge – HATCH, JAMES & DODGE
Gary Merrill – Nexant
Glade Sowards – Utah Energy Office
Hans Ehrbar – University of Utah
Howard Geller – Southwest Energy Efficiency Project
Jamie Dalton – Division of Public Utilities
Jason Berry – State Energy Program
Jeff Burks – Energy Strategies
Jessica Mercy – Smigel, Anderson & Sacks
Jim Gilroy – Rocky Mountain Power
John Harrington – Utah Department of Construction and Facilities Management
John Harvey – Public Service Commission
Kathy Van Dame – Wasatch Clear Air Coalition
Kelly Francone – Energy Strategies
Kevin Emerson – Utah Clean Energy
Marco Kunz – Salt Lake City Corporation
Mark Case – ETC Group
Matt Gibbs – Nexant
Michelle Beck – Utah Committee of Consumer Services

Monica Iino – Smigel, Anderson & Sacks
Nancy Kelly – Western Resources
Neal Townsend – Energy Strategies
Phil Powlick – Utah Division of Public Utilities
Rich Collins – Westminster College
Roger Weir – ATK
Sam Liu – Division of Public Utilities
Sarah Wright – Utah Clean Energy
Scott Debroff – Rhoads & Sinon LLP
Steve Bateson – Questar Gas
Steve Michel – Western Resource Advocates
Vickie Baldwin - Parsons Behle & Latimer