



Pamela A. Bonrud
Director - SD/NE Government &
Regulatory Affairs
Phone: (605) 978-2900
Fax: (605) 978-2919
Pam.Bonrud@northwestern.com

NorthWestern Corporation
d/b/a NorthWestern Energy
3010 W 69th Street
Sioux Falls, SD 57108
Telephone: (605) 978-2940
Facsimile: (605) 978-2910
www.northwesternenergy.com

October 1, 2009

Patricia Van Gerpen
Executive Director
SD Public Utilities Commission
523 E. Capitol
Pierre, SD 57501

RE: NorthWestern Energy's Energy Efficiency Plan for South Dakota Customers

Dear Ms. Van Gerpen:

With this communication, I am pleased to submit NorthWestern Corporation's, d.b.a. NorthWestern Energy (NWE or Company), South Dakota Demand Side Management Plan (SD DSM Plan) for consideration by the SD Public Utilities Commission (Commission). We are proud of what we have put together and look forward to working with the Commission in conducting its review for eventual approval.

Much of what we present in our SD DSM Plan is based on our success and experience in conducting a DSM program in Montana since the late 1980's. Our SD DSM Plan was developed to accommodate a moderate entry into the energy efficiency arena to allow us time to put the infrastructure in place necessary to operate and administer this program. This will help ensure that as the program is rolled out and develops, we are providing services that benefit our customers and company, save energy, and provide value to our shareholders.

The SD DSM Plan as submitted focuses on activities related to both our electric and natural gas utility operations. As our experience develops in administering the SD DSM Plan, we will expand our current proposal of DSM offerings to include a broader array of energy efficiency options.

Customer education and financial incentives are included in our proposed DSM Plan. In talking with our customers over the past few years at fairs, home shows or weatherization and customer appreciation events, we have learned that they are very interested in learning about what they can do at home or in their business to save on energy use. Many ask us to give them information about easy to do or "do it yourself" projects they can install that are relatively inexpensive but help save energy. NWE also proposes the use of customer rebates or financial incentives to help customers defray expenses related to technology upgrades or installation of energy saving products. Rebates or financial incentives play a key role in motivating changes in customer behavior or to entice customers to install products that will help reduce energy demand. They are especially beneficial to commercial and industrial customers that are considering changing out technologies for newer, more efficient energy technologies in their business operations. For our SD DSM Plan as proposed, incentives or rebates are included for lighting upgrades and replacements.

Home and business energy audits are also a key component of our DSM Plan. NWE is very excited about the prospect of offering a formalized energy audit program to its energy efficiency portfolio. Electric

residential customers that use electricity for only lights and appliances –not home heating needs – will qualify for a mail-in energy audit whereby a customer completes a survey about home usage. Electric and natural gas space heating or water heating customers will qualify for on-site home energy audits if their home is five years or older. As the home audit is conducted, customers receive “one on one” education about the current energy efficiency status of their home. Also, simple “fixes” to provide immediate energy savings are completed while on-site at a customer’s home. In both cases, customers will receive a report from NWE that describes further energy savings recommendations for their use. Natural gas residential users will also be eligible for prescriptive rebate offerings for the installation of programmable thermostats or additional home insulation.

A commercial energy audit program is also included in our DSM Plan whereby small commercial electric customers can receive an on-site energy audit for electrical services. Small commercial users are those with a monthly peak demand of 300 kW or less. Again, simple “fixes” will be done during the on-site evaluation with a more formal report with additional suggestions sent to the customer once the audit is completed.

NWE is also proposing that it recover its costs associated with the implementation of the SD DSM Plan via a monthly tracking mechanism, similar to that used for purchased fuel adjustments. We are also proposing an incentive program that provides a reasonable financial incentive to the Company for reaching or exceeding mutually agreed upon energy savings goals. NWE reviewed tracker mechanisms and financial incentives as proposed in previous DSM offerings from other SD based investor owned utilities that ultimately received Commission approval. As such, NWE mirrored those same mechanisms in our SD DSM Plan as proposed. In the future, NWE anticipates that as our DSM program continues it will engage in future discussions with the Commission regarding cost recovery for program activities through capitalization versus expensing mechanisms.

We look forward to working with you, Staff and the Commission in seeking approval of our SD Demand Side Management Plan. Please do not hesitate to contact me if you have any questions.

Sincerely,



Pamela A. Bonrud
Director – SD/NE Government and Regulatory Affairs

Cc: Patrick Corcoran, VP – Government and Regulatory Affairs
Bill Thomas, Manager Regulatory Support Services
Tom Glanzer, Coordinator DSM and Public Relations
Jeff Decker, Specialist Regulatory
Sara Dannen, Corporate Counsel

NorthWesternTM Energy

Delivering a Bright Future



SOUTH DAKOTA

Demand Side Management Plan

October 2009

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I. Introduction

A primary benefit of Demand Side Management (DSM) is that it displaces the need to purchase more expensive electric or natural gas resources by reducing customer energy usage through efficiency gains. In that sense, DSM can be viewed as an energy resource. Another important benefit of DSM is that it provides tools individual customers can use to reduce their energy bills without loss of comfort or convenience. Also, environmental benefits are an important aspect of DSM. Energy saved through DSM activities reduces the need for electric generation, and/or consumption of natural gas, and the associated emissions and other environmental impacts.

NorthWestern Energy (NorthWestern or NWE) believes DSM is a necessary and important part of the portfolio of electric and natural gas supplies it acquires to serve the energy needs of its customers. DSM is available in relatively small and variable amounts from large numbers of individual utility customers. A structured DSM Plan must be developed and implemented in a manner that will successfully educate and motivate customers into action on a scale sufficient to produce meaningful amounts of cost effective DSM resources.

NorthWestern presents this plan as its proposed initial commitment to Demand Side Management and increased energy efficiency efforts with its customers. This plan is based on NorthWestern's successful experience in Montana, experience in talking with South Dakota customers about what they seek for energy efficiency services, and best practices in the utility industry. The plan will likely evolve as business conditions change and more DSM program experience is gained.

II. DSM Goals and Objectives

There are two fundamental purposes for NorthWestern's proposed DSM plan:

- 1) Acquire low-cost energy resources for the benefit of NWE customers, and
- 2) Help customers better understand ways that energy efficiency can assist them in managing their energy usage and costs.

Following successful implementation of initial DSM programs intended for mass residential and commercial customer markets, NorthWestern will work to complete design and implementation of a comprehensive group of DSM programs that will address the entire natural gas and electric customer base. When the DSM program portfolio is fully implemented, the programs will have broad applicability and should provide opportunities for expanded energy efficiency and savings to almost all customers. NWE will develop the DSM delivery infrastructure (programs, contractors, funding sources, trade ally relationships, etc.) necessary to maintain a steady, sustainable DSM acquisition schedule into the future. DSM program activities will include customer education and multiple program mechanisms that offer customers several energy efficiency choices and additional control over their energy usage and cost.

III. Overview and Background of Demand Side Management

DSM is a term used in the energy industry to describe strategies aimed at proactively influencing the manner in which customers use energy. Basic DSM strategies include persuading customers to use energy more efficiently and/or encouraging customers to shift portions of their energy usage away from peak periods (generally high system usage periods as defined by the utility).

DSM strategies that promote more efficient energy use generally include customer education and financial incentives to persuade customers to adopt energy efficient technologies and/or change energy usage-related behavior. An example of an energy efficient technology is a compact fluorescent light bulb (CFL). Turning down the temperature setting on an electric water heater is an example of a

behavioral change. DSM strategies aimed at efficiency improvements may also reduce energy usage during peak periods.

Another category of DSM programs, typically referred to collectively as Demand Response, is aimed at shifting the times of energy use and generally includes education, appropriate rate design and/or financial incentives to encourage the desired behavior. Such Demand Response DSM programs may contemplate voluntary actions by customers to shift usage (non-dispatchable) or, for customers willing to participate, can include active control of specific customer equipment by the utility (dispatchable).

As proposed, this plan includes DSM techniques to encourage more efficient use of energy through programs that include education and financial incentives to encourage customers to adopt efficient technologies. Throughout the remainder of this section and the rest of this document where the terms DSM or Demand Side Management are used, the reference is to the more efficient use of energy unless specifically stated otherwise.¹ NWE intends to evaluate Demand Response DSM strategies to encourage shifting the timing of energy use as part of planning activities.

DSM will be an important resource for NWE and its customers due to the potential for higher energy costs, thinner reserve margins, higher load growth, and increasing environmental concerns. Deployment of cost effective load management and energy efficiency programs will play a role in helping NWE meet future energy supply needs.

IV. Benefits and Risks Associated with DSM

One primary benefit of DSM is that it displaces the need to purchase more expensive energy resources by reducing customer energy usage through efficiency

¹ There is potentially a small amount of cost effective electric DSM associated with switching electric and water space heat to natural gas in the residential sector.

gains. In that sense, DSM is viewed by the industry as a resource option. The average levelized cost of DSM is estimated at about \$20-25 per MWh, which compares quite favorably with other resource alternatives. Because of this relatively low cost, DSM decreases total energy supply portfolio costs over the long run and, on average, customer bills are lower as a result. DSM provides a tool individual customers can use to reduce their energy bills from what they otherwise would be, absent adoption of efficient technologies. Environmental benefits are another important aspect of DSM. Energy saved through DSM activities reduces the need for electric generation and natural gas supply and the associated emissions and other environmental impacts.

There is a capital cost risk associated with DSM. DSM related costs are incurred up-front to pay for the installation of efficient technologies or DSM measures that are expected to generate savings many years into the future. There is the risk that the expected savings will not materialize. Some reasons the expected savings may not materialize include equipment not performing as specified, incorrect assumptions about the efficiency and operating parameters of the equipment that is replaced, changes in customer behavior after adoption of energy efficient technologies², and removal of DSM measures due to premature equipment failure, changes in equipment/facility use, business closure, or customer dissatisfaction with performance of the DSM measures. DSM programs are generally designed such that program participants pay for a portion of the measures so the capital risk is shared between program participants and the utility. This cost sharing approach reduces NWE's cost of acquiring the DSM resources and helps to increase the likelihood that anticipated savings will materialize since customers have a financial stake in the success of the DSM measures as well. Up to the cost effective limit, NWE is guided by the principle of contributing only as much as is necessary to cause customers to act and install DSM. To the extent actual savings is less than

² An example of a change in behavior that could reduce actual savings from expected is a customer who, after installing more efficient lights, is less conscientious about turning off unneeded light fixtures. This is also known as "take-back".

anticipated, DSM becomes relatively more expensive and thus, cost effectiveness from both the customer and utility perspectives is reduced.

While the capital cost risk associated with DSM is a consideration, it does not necessarily make DSM unattractive or uneconomic. In fact, utilities across the country have a long history of operating cost effective DSM programs while managing the associated capital cost risk. NWE, through its predecessor utility Montana Power Company, operated energy efficiency programs in Montana since the late 1980's that were generally confirmed through rigorous program evaluations as being cost effective. More recently, NWE has operated portfolios of electric and natural gas energy efficiency programs in its Montana Service Territory and the third party evaluation of those programs for the years 2004-2006 found these portfolios to be cost effective. While DSM related capital cost risk has not gone away, NWE believes it is a risk that can be effectively managed through appropriate program design, regular program evaluations, and ongoing program adjustments and modifications as more information and experience is gained.

V. Growth of DSM at NWE

NWE has taken the initiative to add new energy conservation activities since 2004, including more extensive use of its website to inform and educate its customers. Using a product called "Calc-U-Pal" (located on NorthWestern's website³) provides a means for customers to identify opportunities to control and reduce their energy consumption. Home Suite Home is a contest NWE offered to its customers in conjunction with Earth Day in 2007 and 2008. Residential customers submitted a short narrative essay describing why they should win a suite of Energy Star® products, an energy audit, and other energy efficiency products like low-flow showerheads, CFLs and a programmable thermostat. A committee of NorthWestern employees reviewed the submittals and selected one customer winner from each state in its service territory. Another tool for customers on NWE's website is a list of energy savings tips for the highest energy end-uses within a

³ <http://northwestern.apogee.net/homesuite/calcs/homecalc/NWE>)

home. There are also tools for commercial and industrial customers. Energy Management Solutions, for example, is a new e-mail service for commercial and industrial customers. It is a free service that provides technical advice, energy operations and maintenance information, business research and information assistance quickly and easily.

In addition to greater use of on-line tools through its website, NorthWestern has sponsored customer appreciation “Open Houses” at its local office sites. During an Open House, free weatherization kits are distributed to customers to help them prepare their homes for the heating season. The weatherization kits contain items such as window wrapping, door sweeps, spray foam insulation, CFLs, foam gasket inserts for electric outlets, or other easy to install items aimed at increasing the energy efficiency of a home. Tabletop displays and videos with information on energy efficiency are also located at local offices for customers to review during Open Houses. These events have proven quite popular and provide an excellent opportunity for positive “one on one” interaction between NWE and its customers.

NorthWestern has also used its customer newsletters and bill inserts as another method for distributing information to its customers concerning energy efficiency, preparing their homes for winter, or understanding and using budget billing. NWE attends county fairs, home shows, state fairs, and other community events regularly as an opportunity to distribute energy efficiency information to customers.

VI. DSM Cost Effectiveness

In 2003, NWE contracted with KEMA, Inc. to perform an assessment of the electric DSM potential in its Montana service territory. The assessment work was updated in 2005, and is being updated again in 2009. This study began with a comprehensive starting list of possible DSM measures, which were then analyzed for cost-effectiveness. KEMA's review of the initial DSM prospects resulted in a list of DSM measures that were deemed suitable for Montana electric DSM programs. A Total Resource Cost Test (TRC) was employed to screen individual DSM measures for cost effectiveness. The TRC is a ratio of benefits to costs. TRC benefits are avoidable costs, which for this assessment equal the present value of the estimated electric or natural gas savings provided by the DSM measure multiplied by NWE's estimated avoidable electric or natural gas supply costs (avoided costs) over a 20-year period. TRC costs are the present value of the estimated incremental cost of installing the DSM measure plus any future costs associated with maintaining the measure to provide the savings through the 20-year period. TRC costs include both utility costs and customer costs.

Separately but similarly, NWE conducted an analysis of natural gas DSM measures for its Montana market, screening them for cost effectiveness using natural gas avoided costs, best available installation cost information, and application of the TRC. As with the electric DSM assessment work, a list of qualifying measures resulted from this analysis.

Building on work done for the Montana portion of NWE's system, service territory and customer base, NWE applied South Dakota-specific electric and natural gas avoided costs⁴ to DSM measures considered for initial programs in South Dakota. Additionally, updated information on costs for materials and installation of many DSM measures was included in the calculations for South Dakota.⁵ The TRC test

⁴ NWE natural gas and electric avoided cost detail is provided in Appendix A.

⁵ Costs for DSM measures are gathered from many sources, including national and regional databases, other utility DSM programs, and substantial field experience with Montana DSM programs. Additionally, a comprehensive DSM

using these measure costs and South Dakota's electric and natural gas avoided costs was used to select the cost-effective measures for inclusion in this proposal for DSM programs. The results of application of natural gas avoided costs to various residential natural gas DSM measures, along with additional calculation detail, are shown in Appendix B.

A. Environmental Benefit Factor: It is generally accepted that DSM mitigates environmental impacts associated with emissions that would have resulted from the typical supply side resources it displaces. It is, however, extremely difficult to accurately quantify. An environmental benefit factor is used in the TRC-based screening and decision rule for eligible DSM measures to recognize that such emissions may have societal costs beyond those internalized in the price of the energy produced by the displaced resources.

Discussions with other interested parties⁶ produced an agreement that some recognition of environmental externalities is needed in TRC calculations, but no certainty on precisely how such quantification should be done. Therefore, NWE did not attempt to explicitly quantify the appropriate environmental benefit factor for use in this DSM assessment. Rather a 10% environmental benefit factor was chosen as a reasonable surrogate.⁷ This 10% factor has not been

program evaluation completed in 2007 by NEXANT, Inc. verified the costs for materials and labor used in TRC calculations. NWE believes these costs are relevant and reasonably appropriate for the South Dakota region. Future program evaluations of the South Dakota DSM effort will necessarily revisit these cost assumptions.

⁶ Discussions included staff of The Montana Public Service Commission, the Montana Electric Technical Advisory Group, and of the Northwest Power and Conservation Council.

⁷ Previous to the adoption of the Electric Default Supplier Procurement Guidelines in Montana, electric supply planning was conducted under sections 38.5.2001 ARM through 38.5.20016 ARM dated 12/31/92. In accordance with section 38.5.2003, ARM, "Environmental Externalities" NWE (formerly MPC) had previously estimated the external environmental costs associated with gas-fired combined cycle generation at 5% of avoided costs. Additionally, section 38.5.2011, ARM, "Regulatory and Market Barriers to Integrated Least Cost Planning and Acquisition of Demand-Side Resources, specified that DSM resources be considered cost effective up to 115% of the utility's avoided costs. In essence, DSM was afforded a 20% cost advantage. It is possible that government regulations have since caused generation projects to internalize environmental costs to a great extent, which would be reflected in market prices. If

challenged since its initial use, and is considered to be adequate recognition of environmental externalities.

- B. The Cost Effectiveness Decision Rule: Absent additional considerations, a DSM measure is deemed cost effective when the TRC (the ratio of benefits to costs) as described above is equal to 1.0 or greater. However, when a 10% environmental benefit factor is applied, a measure is considered cost effective when its cost is equal to or less than 110% of the avoided cost value, or the benefits, of the associated electric savings. This is a cost/benefit ratio. As discussed previously, the TRC is a benefit/cost ratio or the reciprocal of the cost/benefit ratio. Consequently, in this analysis, The Cost Effectiveness Decision Rule establishes that all measures with a TRC equal to 0.9 or greater are considered cost effective for purposes of screening the DSM measures for inclusion in NWE DSM programs.

The impact of using a 10% environmental benefit factor is that more measures are considered cost effective than if the 10% is not applied, which results in an increase in DSM potential.

- C. Cost Effective Measures: Tables 1 and 2 summarize the measures that were determined to be cost effective for residential and commercial/industrial customers respectively, and will be included in the initial set of DSM programs.

so, the environmental benefit factor could be zero or close to it. However, as discussed above, NWE chooses to give DSM the benefit of the doubt in using 10%.

Table 1**Residential & Commercial Lighting Rebate Program Measures**

Program	Included Measures	Markets Served
Lighting	Energy Star Compact Fluorescent Hard-Wired Fixture Energy Star Compact Fluorescent Screw-In Lamp Compact Fluorescent Outdoor Fixtures Torchiere Floor Lamps	Existing Single and Multi Family (including low income)
Lighting	Compact Fluorescent Fixtures Compact Fluorescent Lamps T8 Lamps and Electronic Ballasts High Output T8 and Electronic Ballasts Fluorescent T12 or T8 to T5 Mercury Vapor to T5 in hi-bay Mercury Vapor to High Pressure Sodium Occupancy Sensors & Sweep Controls Photocell Controls Light Emitting Diode (LED) Exit Signs	All existing commercial and industrial building types

Table 2**Residential Natural Gas Savings Rebate Program Measures**

Program	Included Measures		Markets Served
Attic/Ceiling Insulation	R-0 to R-38 R-11 to R-38 R-19 to R-38	R-0 to R-49 R-11 to R-49 R-19 to R-49	Existing residential homes
Basement Wall Insulation	R-0 to R-11		Existing residential homes
Crawl Space Wall Insulation	R-0 to R-19		Existing residential homes
Exterior Above Grade Wall Insulation	R-0 to R-11 R-0 to R-19	R-0 to R-19 R-11 to R-21	Existing residential homes
Programmable Energy Star Thermostat	Energy Star®		Existing residential homes
Hot water savings kits	Low Flow Showerhead Low Flow Faucet Aerator (kitchen) Low Flow Faucet Aerator (bathroom) Window Shrink Wrap Kit Weather Stripping Kit		Existing residential customers

VII. DSM Annual Targets

Developing a portfolio of DSM programs typically includes establishment of annual targets or goals for specific levels of acquired DSM. At this time, and given the desire of NWE to expand its DSM program offerings immediately, establishment of specific annual electric and natural gas DSM targets is speculative. NWE proposes to go forward with specific DSM programs based on cost effective measures and estimated funding levels for the first two years. An initial ramp-up period is expected to allow the expanded DSM program portfolio to become fully operational and the customer base to become better informed about the program features and

availability. Following two years of activity, these initial programs should be fully implemented and functioning well, and NWE will have gained knowledge of the potential annual amounts of DSM the portfolio of programs can deliver. At that time, NWE can set better-informed annual targets.

The quantity of achievable and cost effective DSM available is finite. Because of that, the number of opportunities available to acquire DSM in terms of both customers and measures decreases over time. Customers that are relatively more inclined to adopt energy efficient technologies, for whatever reason, will likely participate in the earlier years of the DSM plan. Relatively more of the DSM opportunities remaining will reside in facilities whose owners are less inclined to adopt energy efficient technologies for any number of reasons. Such reasons may include measures that, while cost effective, are relatively costly as compared to the billing savings they generate, high investment hurdle rates, distrust of new technology, lack of knowledge of the availability and benefits of energy efficient technologies, and/or or simply an indifferent attitude. Thus, more focused promotional efforts and/or relatively higher average incentives will likely be required to achieve the targets in later years of the DSM plan.

VIII. DSM Acquisition

DSM will be acquired through programs incorporating measures identified as passing the Cost Effectiveness Decision Rule ($TRC = 0.9$ or greater) as well as any measures subsequently determined by NWE to be cost effective based on further analysis. The program mix will be designed to target all customer sectors. Programs will be designed to minimize cream skinning.⁸

⁸ Cream skinning is a term used to describe the undesirable practice of acquiring the least expensive DSM without acquiring more expensive, but cost effective, DSM at the same time. Added costs associated with having to “return” to acquire the more expensive DSM can render such DSM non-cost effective or “stranded”.

IX. DSM Program Development and Delivery

The DSM development and delivery infrastructure will consist of a team of NWE personnel (NWE DSM Team) and outside contractors.

The NWE DSM Team has two components with primary responsibilities as described below:

- A. Administration is responsible for developing, pre-packaging, and managing programs. Related duties include designing programs, issuing requests for proposals, contracting for services and administering such contract(s), developing standardized promotional materials for use in the field and for general program promotion, establishing and tracking overall program budgets, developing DSM goals by area, consolidating/reporting results, and supporting DSM tracker filings.
- B. The field is responsible for providing input for program development and for program outreach at the local level including promoting DSM programs to customers and civic groups, coordinating promotion efforts with the outside contractor(s), and monitoring performance of contractors at the local level. The field will provide for “on-the-ground” representation of NWE’s DSM efforts.

Outside contractors are responsible for program implementation to achieve overall and local DSM targets, including procurement and installation of all DSM measures, coordinating program outreach activities with both the administration and field components of NWE DSM team, and reporting program activities/results. Work placed with outside contractors will generally be competitively bid except where it is clear and demonstrable that sole sourcing is prudent and in the best interests of customers. Sole sourcing may be preferential to bidding in instances where existing services provided by outside contractors in Montana programs provide cost efficient delivery infrastructure and quick program expansion capability in South Dakota.

X. Program Evaluations

The DSM savings and costs associated with this DSM plan are based on the DSM assessment, program experience and comprehensive DSM program evaluation in Montana, and analysis specific to South Dakota. Going forward, it is important to conduct evaluations of DSM programs on a regular basis to identify needs for program related changes, verify program savings, and evaluate program cost effectiveness. There are two basic types of DSM program evaluations; they are process and impact.

Process evaluations focus mainly on DSM program delivery issues. Examples of questions that process evaluations attempt to answer are:

- A. Is the program targeted at the correct customer segment(s)?
- B. Is program promotion reaching the targeted customer segment(s)?
- C. Are incentive levels and promotion budgets and activities appropriate for the desired program results?
- D. Does the potential associated with the program match planned future targets for the program?
- E. What are customer attitudes about the program?
- F. Are there areas where the program can be improved and/or made more efficient?

Impact evaluations focus mainly on DSM program results with respect to DSM acquisition. Some of the questions impact evaluations seek to answer include:

- A. What are the actual savings achieved by the program/technology?

B. Do program savings persist over time?

C. Is the program cost effective?

NWE intends to commence program evaluation activities no later than the first half of year 3 (second half of 2012). Evaluations will occur on a regular basis thereafter as needed. In order to eliminate potential conflict of interest issues, evaluations will be administered primarily by outside contractors not engaged in other aspects of DSM program implementation and delivery.

XI. DSM Program Descriptions

NWE proposes to initiate several programs that are well developed in Montana and can be rolled out quickly in South Dakota. NWE intends to use an outside services contractor with experience in these programs. When the initial programs are fully operational, additional programs will be added.

Effort in the beginning will focus on building the capability to deliver DSM programs and services in the South Dakota service territory. This “DSM infrastructure development” involves acquiring and training people, establishing and building relationships with market participants like retailers, wholesalers, builders, trade groups, engineering/architectural firms, government officials, operators and decision-makers of commercial and public buildings and facilities.

NWE will begin with the following programs rolled out in the schedule detailed in Appendix C to this Plan:

A. Residential Energy Audit Program

This program is proposed as a foundational energy conservation program that will be available to all qualifying customers at no direct charge. Funding for the program is provided through the DSM Program Tracking Mechanism discussed under section XIV subpart C.

There are two types of residential audits: mail-in and on-site. Residential customers who use electricity delivered by NWE for lights and appliances only—not for space or water heat—are eligible for a mail-in survey audit. Mail-in audits occur through a customer completing a survey about energy use in their home.

Residential customers whose space and/or water heating fuels are delivered by NWE and whose home is at least five years old are eligible for an on-site energy audit. Single-family and multifamily residences of four units or fewer are eligible to be audited through this program. On-site audits are conducted to survey energy use, to install certain energy saving measures, and to identify energy saving opportunities.

A customized report with energy saving recommendations is generated for the customer for both on-site and mail-in audits. Although homes cannot be re-audited, a customer can request a copy of a previous audit report. On-site home energy audits may include free installation of several items: water heater wraps, low-flow shower heads, low-flow faucet aerators, and pipe wrap insulation on the first ten feet of hot water pipe leaving the water heater.

B. Small Commercial Energy Audit Program

The Small Commercial Energy Audit Program focuses on identifying electricity conservation opportunities for small commercial customers on the electric distribution system of NWE. Small commercial customers are defined as businesses that have an average peak demand of 300 kW or less. Funding for the program is provided through the DSM Tracker.

The program is an educational effort that allows businesses to identify ways to increase electrical efficiency in their facilities and to learn about NWE's efficiency programs. It is aimed at those businesses that would not otherwise seek a full energy study under the Business Partner's program (see description

below). Interested businesses can schedule an on-site audit either by calling NWE or by mailing a request card.

CFLs are installed during the audits. As with the CFLs given away during the Home Audit program, the cost and associated savings of these CFLs are counted under the Residential or Commercial Lighting Rebate programs. The number of CFLs installed during a residential audit is unlimited for any location used at least 3 hours per day on average. For commercial audits, the number is limited to the greater of 20 lamps or lamps for 10% of the site's fixtures. For sites with electrically heated water, the auditors may also install water heater blankets and pipe wrap for the first ten feet of pipe leaving the heater, and low-flow showerheads and faucet aerators as needed.

C. Residential Natural Gas Savings Rebate Program

NorthWestern residential gas customers to whom NWE provides natural gas for space and water heat are eligible to participate in this program. Funding for the program is provided through the DSM Tracker. The program offers prescriptive rebates for the installation of home insulation and programmable thermostats, and offers free weatherization materials.

A major element of this program is the Community Weatherization Events conducted in the fall at various locations throughout the service territory. Whenever possible, these events are held in conjunction with NWE Community Appreciation Events. As discussed previously, at these Community Events, free weatherization materials are distributed to eligible customers and educational information is provided. The weatherization materials are in the form of three kits; a weatherization kit, a hot water savings kit, and a window insulator kit. The Community Weatherization Events are held to raise awareness about the rising cost of natural gas, and to spur interest in conservation and weatherization. NWE's experience in Montana shows that almost all customers receiving weatherization kits have installed some or all of the materials.

The program has a list of preferred contractors to do the home insulation work. To be a preferred contractor, a contractor must sign a participation agreement and be licensed, bonded, and insured. Higher rebates are paid to customers who hire preferred contractors to do the insulation work. Rebates are handled through a mail-in application process.

Table 3 summarizes measures offered during each program year and the incentive levels associated with each measure.

Table 3
2009 Natural Gas Savings Program Rebates

Measure	Incentive Unit	Self-Installed Incentive (\$/unit)	Preferred Contractor Incentive (\$/unit)
Attic Insulation from R-0 to R-38	Sq Ft	0.35	0.44
Attic Insulation from R-0 to R-49	Sq Ft	0.39	0.49
Attic Insulation from R-11 to R-38	Sq Ft	0.23	0.29
Attic Insulation from R-11 to R-49	Sq Ft	0.28	0.35
Attic Insulation from R-19 to R-38	Sq Ft	0.17	0.21
Attic Insulation from R-19 to R-49	Sq Ft	0.23	0.29
Basement wall insulation R-0 to R-11	Sq Ft	0.35	0.44
Crawlspace wall insulation R-0 to R-19	Sq Ft	0.34	0.42
Exterior wall insulation R-0 to R-11	Sq Ft	0.50	0.62
Exterior wall insulation R-11 to R-21	Sq Ft	0.53	0.66
Programmable Thermostat	Each	\$30	\$30
Weatherization Kits	Each	Free	Free
Hot Water Savings Kits	Each	Free	Free
Window Insulation Kits	Each	Free	Free

D. Residential Lighting Rebate Program

The purpose of the program is to encourage residential customers to switch from incandescent bulbs to more efficient ENERGY STAR® compact fluorescent lamps (CFLs) in their homes. All NWE electric residential customers will be eligible to participate. The program employs the following delivery approaches to encourage customers to install ENERGY STAR CFLs:

1. *In-Store:* Coupons worth \$2.00 per CFL toward the purchase of up to ten CFLs at participating retailers are mailed to customers. Each coupon has a unique bar code that indicates which coupons are used. Customers are limited to one coupon per promotion; promotions occur twice annually.
2. *Mail-In:* Rebates for a minimum of five and a maximum of 15 CFLs, limited in amount to the lesser of \$2.00 per bulb or the bulb's purchase price, and rebates of \$10.00 per fixture for ENERGY STAR lighting fixtures (fixtures with

electronic ballasts, although outdoor ENERGY STAR fixtures with magnetic ballasts are also acceptable).

3. *Giveaways:* Up to four CFLs per customer are distributed at no direct charge at certain special events such as trade shows, farmers' markets and community fairs. The maximum of four CFLs is an annual limit per customer for CFLs received at these events. Customer status is verified via a laptop database.

4. *Direct Install:* In conjunction with the E+ Energy Audit for the Home Program, CFLs are directly installed at on-site audit locations in all fixtures identified by the homeowner as operating on average at least three hours per day.

5. *Mail-Out:* Also in conjunction with the E+ Energy Audit for the Home Program, customers who complete a mail-in audit are mailed one CFL with their audit report.

E. Commercial Lighting Rebate Program

The E+ Commercial Lighting Rebate Program targets NorthWestern's commercial, industrial, and institutional customers in South Dakota. The program promotes lighting retrofit projects by providing prescriptive rebates for customers who replace lighting equipment with more efficient technologies or who install lighting controls. Equipment must operate a minimum of 1,000 hours per year to qualify, and projects must qualify for at least a \$50 rebate to be eligible.

Projects will be given a window of time in which they must be completed to ensure project funds are assigned only to projects that are actively underway. In addition, rebates will not be provided for lamps or fixtures placed in stock in excess of 5% of installed equipment. Table 4 outlines the incentive structure for the E+ Commercial Lighting Rebate Program.

Table 4
E+ Commercial Lighting Rebate Program Incentive Structure

Equipment Description	Rebate	Qualifier
One or Two Lamp Fixture 1/1, 2/1 (Lamp/Ballast)	\$8.00/fixture	Fully Electronic Ballast
Three Lamp Fixture 3/1, 3/2 (Lamp/Ballast) *	\$10.00/fixture	Fully Electronic Ballast
Four Lamp Fixture 4/1, 4/2 (Lamp/Ballast)	\$12.00/fixture	Fully Electronic Ballast
T-8 lamp 4 foot	\$1.00/lamp	N/A
T-8 lamp 8 foot	\$2.00/lamp	75 watt T-12 to 59 watt T-8 or 60 watt T-12 to 50 watt T-8
T-8 HO lamp 8 foot	\$6.00/lamp	N/A
Integral (screw-in) or Modular Compact Fluorescent Lamp (CFL) **	\$ 2.00/lamp	ENERGY STAR rating; replaces an incandescent lamp of no more than 4 times the CFL wattage
Hard-Wired CFL Fixture or Compact Fluorescent Lamp (CFL) **	\$10.00/lamp	ENERGY STAR rating; replaces an Incandescent lamp of no more than 4 Times the CFL wattage
LED Face Exit Sign	\$15.00/sign	
Photocell	\$40.00/unit	Exterior lighting control only
Mercury Vapor (MV) to High Pressure Sodium Vapor (HPSV) or Metal Halide	\$ 0.10/watt saved	On Approved Design ***
MV, HSPV or MH to T-5 HO	\$0.10/W saved	On Approved Design, High-Bay ***
Approved lighting retrofits	\$0.10/W saved	On Approved Design ³
Wall Switch or Ceiling Mounted Occupancy Sensor or Sweep Control	\$10.00/unit	Controls \geq 180 watts of connected load
Wall Switch or Ceiling Mounted Occupancy Sensor or Sweep Control	\$20.00/unit	Controls \geq 300 watts of connected load
Wall Switch or Ceiling Mounted Occupancy Sensor or Sweep Control	\$30.00/unit	Controls \geq 480 watts of connected load

* Tandem-wired fixture using one ballast for two fixtures counts as one fixture.

** Only ENERGY STAR rated CFLs are eligible for rebate.

*** Difference in total wattage between equipment removed and equipment installed.

XII. Future Programs

Following the successful introduction of the programs described above, NWE will examine whether the following additional programs are appropriate and cost effective additions to its expanded DSM portfolio.

A. Electric Motor Rebate Program

This program is to encourage the purchase and installation of National Electrical Manufacturers Association (NEMA) Premium® energy-efficient, general-purpose motors. This program would be open to all NWE electrical commercial and industrial default supply customers.

B. Business Partners Program

This program would serve all NWE commercial and industrial electric customers. NWE would solicit proposals for projects that incorporate conservation and renewable energy sources or that provide a unique benefit to NWE's distribution system. Project proposals would have to demonstrate the cost effectiveness of the project, prove the availability of qualified design services, contractors, and maintenance service, and describe the projects' use of reliable and available equipment.

C. Residential New Construction

This program could offer two avenues for incentives for new homes; efficient lighting measures, and non-lighting electric energy efficiency measures.

D. Demand Response/Load Control

Through the capabilities available from advanced metering and communications, NWE could offer special time-varying rates and/or would have the ability to remotely manage customer demand in response to supply conditions.

XIII. DSM Budget and Schedule

To the extent practical all programs should be offered to all NWE electric and natural gas customers on a consistent basis, in order to maximize program effectiveness, minimize customer confusion, and minimize administration cost and effort.

NWE DSM funds should be used only to acquire DSM from NWE customers, not customers served by other utilities or non-utility energy suppliers. DSM funds should fund programs for all NWE customers as allowed by DSM budgets.

A. Budget

The expected budget for all DSM programs introduced in 2010 is presented in the following table.

DSM Program Budget Estimates (Year 1)	
Residential & Small Commercial Audit Program	<u>Budget Estimate</u>
Program Startup (contractor cost)	\$ 60,000
Outside Services (contractor)	165,000
Marketing	15,000
Other	2,200
Program Total	\$ 242,200
Residential Lighting Rebate Program	
Program Startup (contractor cost)	\$ 50,000
Outside Services (contractor)	102,100
Rebates & Incentives	75,800
Marketing	18,500
Other	500
Program Total	\$ 246,900
Commercial Lighting Rebate Program	
Program Startup (contractor cost)	\$ 20,000
Outside Services (contractor)	4,700
Rebates & Incentives	30,900
Marketing	10,000
Other	100
Program Total	\$ 65,700
Residential Natural Gas Savings Rebate Program	
Program Startup (contractor cost)	\$ 30,000
Outside Services (contractor)	77,200
Rebates & Incentives	24,500
Marketing	18,700
Other	1,000
Program Total	\$ 151,400
Grand Total	\$ 706,200

B. Schedule

NWE intends to proceed along the following schedule:

1. As part of the Commission's review of this DSM plan, NWE expects to receive critical review and feedback from the Commission specific to its DSM plan and its proposed DSM Program Cost Tracking and Lost Revenue Recovery Mechanism.
2. The NWE DSM team is formed and will commence planning activities including developing overall DSM program strategies, developing definitions of responsibilities for the NWE DSM team and outside contractors, identifying preferred program delivery alternatives, and developing competitive solicitations.
3. NWE will undertake additional activities including, program implementation and delivery once the planning work is complete and upon receiving; (1) a strong indication from the Commission that NWE's DSM plan is reasonable and (2) approval from the Commission of an acceptable mechanism for recovering prudently incurred DSM program costs and associated lost revenues. NWE proposes such a mechanism in the next section.

A timeline is presented as Appendix C.

XIV. Recovery of DSM Costs and Performance Incentives

There are two general categories of costs associated with DSM activities; DSM Program costs and Lost Revenues. Full recovery of both categories of costs is necessary to align interests and incentives of both NWE and its customers with respect to utility-sponsored DSM.

A. DSM Program Cost Recovery

The cost of DSM programs must be recovered by the utility. These costs can be recorded as expenses in the actual year the costs are incurred, or the costs can be capitalized and amortized over a useful life. In the past in Montana, NWE capitalized these costs, included them in rate base and amortized and recovered them over a 10-year life. NWE then revised its policy, and expensed and recovered in rates all costs in the year in which they were incurred. NWE plans to continue to expense these costs for the following reasons.

1. If DSM Program costs are capitalized and amortized over time, NWE will be forced to raise and deploy capital to sustain the DSM activity contemplated in this resource plan.
2. Appropriate carrying costs must also be recovered from customers if DSM costs are amortized over time, increasing costs to customers.
3. Regulatory risk and the potential for stranded costs are increased when DSM costs are amortized over time since future Commissions are not bound to allow continued recovery of previously approved amortized DSM costs.
4. Expensing DSM program costs (rather than capitalizing) more closely matches revenues with expenses at the time each is incurred, as is the case with purchased power and purchased natural gas in the energy supply portfolios.

B. Lost Revenues

DSM activities or programs are associated with the acquisition of cost-effective demand-side resources. For utilities to make these cost-effective investments in DSM, it is necessary to remove any associated disincentives.

As utilities invest in customer-based energy conservation programs and other types of DSM, which decrease kilowatt-hour (kWh) and/or dekatherm (dKt) sales, delivery system revenues generally decrease since delivery system revenues are linked to the volume of units sold. That is, increased kWh and/or dekatherm (dKt) sales increase revenues; decreased sales decrease revenues. The delivery system revenue reductions associated with successful DSM programs are called "lost revenues." Lost revenue recovery mechanisms address the revenue-sales link that causes utilities to lose revenues when they sell less electricity because of DSM. It is the net effect of these lost revenues on the utility's opportunity to earn its authorized rate of return, other things being equal, that causes a disincentive to promote or invest in DSM.

The disincentives caused by the revenue-sales link can be addressed in a number of ways. They include for example:

1. Decoupling – Decoupling mechanisms break the link between sales and revenues. Under decoupling, rates are determined based on authorized revenue requirements. At a later date, the difference between actual sales and the authorized revenue requirements is calculated. The difference (positive or negative), plus carrying charges, is credited to ratepayers or the utility as appropriate.
2. Lost Revenue Adjustment (LRA) Mechanisms – LRA mechanisms are intended to remove a disincentive to a utility by identifying and restoring lost revenues associated with DSM programs between general rate adjustments.

3. Delivery Service Charges – Costs associated with electric and natural gas delivery systems are largely independent of consumption. That is, delivery system costs are the same whether consumption is 5 kWh or 100 kWh. Delivery service charges shift customer usage based charges to fixed charges to more closely match the fixed cost nature of energy delivery systems.
4. Regular General Rate Adjustments – There can be several years between the time in which DSM is acquired, associated lost revenues are incurred, and the next general rate case. From the utility perspective, general rate cases would need to be filed frequently (probably annually) to appropriately address the lost revenue issue.
5. Performance Incentives – Some jurisdictions have gone beyond simply making the utility “whole” on DSM activities by providing additional benefits to the utility for successfully promoting and achieving conservation. Performance incentive mechanisms usually allow utilities and customers to share the total DSM benefits. These incentives can be configured in a number of ways. Some are offered as rewards for achieving conservation goals. Others simply offer a higher return on investments for demand side resource investment versus supply side resource investments.

C. NWE’s Proposed DSM Program Cost Tracking and Lost Revenue Recovery Mechanism

DSM represents a portion of the energy supply portfolio. NWE believes that DSM program costs should be expensed and recovered. NWE should be no worse off from a revenue, and ultimately net income, perspective for having pursued DSM. Accordingly, NWE describes its proposed DSM Program Cost Tracking and Lost Revenue Recovery Mechanism in the following sections.

Currently in NWE's South Dakota jurisdictional area, electric tracker rates are adjusted quarterly and the gas tracker rates are adjusted monthly. A separate DSM Electric/Natural Gas Tracker (DSM Tracker) will be implemented on a 12 calendar month cycle each year, with annual rate adjustments as necessary and appropriate. A brief description of the mechanics and anticipated timing is provided below.

For the first year filing, DSM Program Costs and Lost Revenues will be accumulated for April through December 2010, which is the start-up period for the initial set of DSM Programs. This first year filing will be made by March 1, 2011 with an effective date of the new rate to be May 1, 2011. There will be two components to the calculations:

- The actual DSM Program Costs incurred, and the calculated Lost Revenues based on reported DSM program savings for the 2010 startup period; and
- A forecast of DSM Program Costs and Lost Revenues that are developed for January through December 2011. Any over/under collection for the first year (including interest), plus forecasted DSM Program Costs and Lost Revenues for the second year are added together to compute rates for the second year.⁹

The second year filing using the methodology described above will be made by March 1, 2012 and a filing will be made by March 1 of each year thereafter.

D. Adjustments Resulting from Program Evaluations

NWE intends to report DSM related energy and demand savings based on engineering estimates. Practice has proven that engineering estimates tend to

⁹ Because there will not be an initial DSM Tracker filing until March 1, 2011, it is expected that under collection of both DSM Program Costs and Lost Revenues will result during the 2010 startup period.

differ from actual savings (many times actual savings are somewhat lower). To account for this difference in the DSM Tracker, NWE proposes to utilize the results of future program evaluations to develop appropriate savings adjustment factors (adjustment factors) that can be applied to engineering estimates to better reflect actual savings and therefore, actual lost revenues. As discussed previously, NWE plans to commission initial program evaluations in 2013 and will conduct subsequent evaluations as necessary. The evaluations will be conducted by independent outside contractors not engaged in other aspects of DSM program implementation and delivery. The adjustment factors developed from a specific evaluation will be used for calculating lost revenues on a going forward basis until/unless subsequent evaluations suggest the factors should be changed.

NWE will not have the benefit of the results of program evaluations in the first few years of implementation. NWE will use the adjustment factors from the Montana DSM Program Evaluation recently completed by NEXANT for calculation of lost revenues until such time as the first evaluation specific to this expanded portfolio of South Dakota DSM programs is completed.

E. True-up of the Lost Revenue Account

The utility's revenue requirements are determined and authorized by the Commission through general rate case proceedings. Rates are set and approved based on the authorized revenue requirement and sales. DSM acquisition that occurs after rates are set results in lost revenues and, all else being equal, the utility does not collect its authorized revenue requirement. In part, the DSM Tracker described above is designed to recover lost revenues between general rate cases. Because most DSM measures are long-lived (i.e., they save energy year after year), lost revenues increase as additional DSM is acquired between general rate cases. During those periods customers cover lost revenues via annual adjustments to DSM Tracker rates. In a general rate case, rates are adjusted to reflect, among other things, the ongoing lost revenues resulting from the DSM acquired prior to the rate adjustments. That

is, the impacts of previous DSM activities are included in the loads used to establish the new rates. From that point forward, those lost revenues (the lost revenues resulting from DSM acquired prior the rate adjustments) are recovered from all customers.

Appendix D is a simple illustrative example of this concept. In the example, the existing authorized revenue requirement is \$10,000. For ratemaking purposes, there are 1,000 units sold, and the calculated rate is \$10 per unit. DSM reduces sales by 10 units in the first year and an incremental 10 units in each subsequent year (Appendix D Table 1). Referring to Appendix D Table 2, there are 990 units sold in the first year and sales are reduced by an additional 10 units sold in each subsequent year due to continuing DSM acquisition. Because actual sales are less than the sales used to establish the \$10 per unit rate, the resulting revenues are less than the authorized revenue requirement in each year. The difference is lost revenues created by DSM acquisition, which are collected through annual adjustments to rates via the DSM Tracker. Lost revenues increase each year between general rate cases as incremental DSM is acquired.

In the example, a general rate case is completed in year 4 with rates effective January of year 5. For purposes of this example, the authorized revenue requirement remains at \$10,000. However, rates are adjusted in year 5 to reflect year 4 sales of 960 units. The adjusted rate is \$10.42 per unit. This adjustment spreads the ongoing lost revenues associated with all DSM acquired up to that point to all customers, effectively “truing up” the lost revenue account and establishing a reset to a “zero” starting point for Lost Revenues at the moment the new rate becomes effective. If no additional DSM were acquired after the rate adjustment, lost revenues would not be a concern. However, in year 5 sales are reduced to 950 units through the acquisition of additional DSM. As a result, the adjusted rates do not achieve the authorized revenue requirement and the difference is covered through the Lost Revenue component of the DSM Tracker. Year 6 is similar, except the adjustment to

rates is larger than in year 5 because of the additional 10 units of DSM acquired in year 6.

F. Performance Incentive

In conjunction with the DSM Program Cost Tracking and Lost Revenue Recovery Mechanism, NWE proposes a DSM Performance Incentive. The incentive is capped at 30% of the Company's approved annual spending budget. This DSM Performance Incentive includes the following attributes:

- The incentive will be calculated separately for gas and electric.
- Residential and non-residential programs will be combined for incentive calculations.
- Incentives cannot be negative (i.e. no penalty).
- Net benefits are defined as the avoided cost of the energy savings minus the associated DSM Program costs.
- The kWh or therm savings assumed for each program in establishing the target net benefits calculation will be used in calculating the achieved net benefits (i.e. assumes avoided costs do not change).
- Achieved net benefits will be calculated as a percentage of target net benefits.
- No incentive will be earned if less than 100% of targeted kWh or therm savings are achieved but will begin at 100% of kWh or therm savings achieved.
- The incentive will be based on six steps – 100%, 110%, 120%, 130%, 140%, and 150% of targeted energy savings – and not prorated between.
- The maximum incentive will be 30% of the approved budget.
- The calculation to yield the percentage multiplier per step will be the maximum incentive (30% of budget) divided by 150% of the target net benefits proposed in the plan divided by six steps for incentive levels.

- The percentage multipliers will be established at the time of initial plan filing.
- No incentive will be assumed in the initial year; incentive awards will be included in the following year's cost recovery filing.
- If customer response to programs exceeds expectations, NWE will be allowed to adjust marketing, rebate levels and other program parameters in an effort to keep overall spending within budget.

Benefits accrue because DSM can be acquired at costs below other traditional forms of energy supply. Thus, DSM benefits are directly related to avoided costs of energy supply. From these benefits, costs of the DSM Program are subtracted to achieve utility net benefit, which is used in the calculation of the DSM Performance Incentive. The maximum incentive attainable for the first year at 30% of budget is \$166,440 for electric and \$45,420 for natural gas if 150% of the proposed target net benefits are achieved. The calculations for the estimated gas and electric incentives are included as Appendix E.

NWE will calculate the Performance Incentive award for each program period-ended December 31 which will be recovered during the following year. Achieved net benefits will be calculated as a percentage of target net benefits and the appropriate percentage multiplier at the step achieved will be applied to the plan budget to determine the dollar value of the performance incentive award. The performance incentive award calculation will be included with the annual energy efficiency cost recovery filing.

NWE is proposing to implement its initial energy efficiency program in the second quarter of 2010. Because it will be necessary to ramp-up DSM Program activities during the initial year, NWE proposes that the first plan period will be a shortened period ending on December 31, 2010 and the following plan periods be based on calendar years ending December 31.

NWE believes that customers will find value in continuing energy efficiency programs in South Dakota and that energy efficiency programs will continue for many more years. However, in the event that energy efficiency programs do not continue into the future, NWE proposes to continue to collect any unrecovered energy efficiency costs, performance incentive awards and reconciliation amounts through the cost recovery mechanisms described in this Plan until all such costs are recovered. Likewise, NWE would return any over-collections to customers through the cost recovery factor until all over-collections are returned.

XV. Conclusion

NWE has described its intentions with regard to implementation of this proposed DSM plan. Further, NWE has proposed a mechanism for recovery of DSM Program Costs and Lost Revenues that will identify well with the existing electric and natural gas trackers. NWE has stated its intent to form a DSM team beginning in 2009 and commence program planning and development activities. NWE has further stated its intent to move forward with program implementation following Commission review, comment and any direction it may wish to provide.

Appendix A

Levelized \$D Electric Supply Price

SD Projected Electric Price

2.32% Item John Kaspenick 11/26/07
Price Escalation factor 2.32%
Discount rate 8.82%

20 Year Analysis	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Price (\$ Per MWh)	44.27	45.30	46.35	47.42	48.52	49.65	50.80	51.98	53.18	54.42	55.68	56.97	58.29	59.65	61.03	62.45	63.90	65.38	66.89	68.45	70.03	71.66	73.32	75.02	76.76	78.54	80.37	82.23	84.14	86.09	
30 Year NPV (\$)	573.73																														
Levelized Price (\$ Per dkt)	54.96	54.96	54.96	54.96	54.96	54.96	54.96	54.96	54.96	54.96	54.96	54.96	54.96	54.96	54.96	54.96	54.96	54.96	54.96	54.96	54.96	54.96	54.96	54.96	54.96	54.96	54.96	54.96	54.96	54.96	

20 Year Analysis

Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Price (\$ Per MWh)	44.27	45.30	46.35	47.42	48.52	49.65	50.80	51.98	53.18	54.42	55.68	56.97	58.29	59.65	61.03	62.45	63.90	65.38	66.89	68.45	70.03
20 Year NPV (\$)	482.35																				
Levelized Price (\$ Per dkt)	52.16	52.16	52.16	52.16	52.16	52.16	52.16	52.16	52.16	52.16	52.16	52.16	52.16	52.16	52.16	52.16	52.16	52.16	52.16	52.16	52.16

15 Year Analysis

Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Price (\$ Per MWh)	44.27	45.30	46.35	47.42	48.52	49.65	50.80	51.98	53.18	54.42	55.68	56.97	58.29	59.65	61.03	62.45	63.90	65.38	66.89	68.45	70.03
15 Year NPV (\$)	410.69																				
Levelized Price (\$ Per dkt)	50.41	50.41	50.41	50.41	50.41	50.41	50.41	50.41	50.41	50.41	50.41	50.41	50.41	50.41	50.41	50.41	50.41	50.41	50.41	50.41	50.41

10 Year Analysis

Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Price (\$ Per MWh)	44.27	45.30	46.35	47.42	48.52	49.65	50.80	51.98	53.18	54.42	55.68	56.97	58.29	59.65	61.03	62.45	63.90	65.38	66.89	68.45	70.03
10 Year NPV (\$)	313.18																				
Levelized Price (\$ Per dkt)	48.41	48.41	48.41	48.41	48.41	48.41	48.41	48.41	48.41	48.41	48.41	48.41	48.41	48.41	48.41	48.41	48.41	48.41	48.41	48.41	48.41

Levelized \$D Natural Gas Supply Price

SD Projected Gas Prices as of NYMEX trading July 2, 2008.

2.32% Item John Kaspenick 11/26/07
Price Escalation factor 2.32%
Discount rate 8.82%

30 Year Analysis	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30		
Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Price (\$ Per dkt)	13.18	11.99	10.71	10.28	10.52	10.76	11.01	11.26	11.53	11.79	12.07	12.35	12.63	12.93	13.23	13.53	13.85	14.17	14.50	14.83	15.18	15.53	15.89	16.26	16.64	17.02	17.42	17.82	18.23	18.66	19.09	
30 Year NPV (\$)	129.99																															
Levelized Price (\$ Per dkt)	12.45	12.45	12.45	12.45	12.45	12.45	12.45	12.45	12.45	12.45	12.45	12.45	12.45	12.45	12.45	12.45	12.45	12.45	12.45	12.45	12.45	12.45	12.45	12.45	12.45	12.45	12.45	12.45	12.45	12.45	12.45	

20 Year Analysis

Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Price (\$ Per dkt)	13.18	11.99	10.71	10.28	10.52	10.76	11.01	11.26	11.53	11.79	12.07	12.36	12.63	12.93	13.23	13.53	13.86	14.17	14.50	14.83
20 Year NPV (\$)	110.19																			
Levelized Price (\$ Per dkt)	11.62	11.62	11.62	11.62	11.62	11.62	11.62	11.62	11.62	11.62	11.62	11.62	11.62	11.62	11.62	11.62	11.62	11.62	11.62	11.62

15 Year Analysis

Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Price (\$ Per dkt) ¹	13.18	11.99	10.71	10.28	10.52	10.76	11.01	11.26	11.53	11.79	12.07	12.36	12.63	12.93	13.23	13.63	13.85	14.17	14.50	14.83	15.18
15 Year NPV (\$)	94.65																				
Levelized Price (\$ Per dkt)	11.62	11.62	11.62	11.62	11.62	11.62	11.62	11.62	11.62	11.62	11.62	11.62	11.62	11.62	11.62	11.62	11.62	11.62	11.62	11.62	11.62

10 Year Analysis

Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Price (\$ Per dkt) ¹		13.18	11.99	10.71	10.28	10.52	10.76	11.01	11.26	11.53	11.79
10 Year NPV (\$)	73.52										

Appendix B

Appendix B

Residential Natural Gas Measures - Calculations & Assumptions

\$ 14.05 per dKt gas cost (July 18, 2008)

Attic/ceiling insulation

Per Nexant

Increasing ceiling insulation from R-0 to R-38 will save	0.03314	dKt/sqft and cost	\$ 0.87	per sqft
Increasing ceiling insulation from R-0 to R-49 will save	0.03385	dKt/sqft and cost	\$ 0.97	per sqft
Increasing ceiling insulation from R-11 to R-38 will save	0.01064	dKt/sqft and cost	\$ 0.58	per sqft
Increasing ceiling insulation from R-11 to R-49 will save	0.01186	dKt/sqft and cost	\$ 0.70	per sqft
Increasing ceiling insulation from R-19 to R-38 will save	0.00606	dKt/sqft and cost	\$ 0.42	per sqft
Increasing ceiling insulation from R-19 to R-49 will save	0.00741	dKt/sqft and cost	\$ 0.58	per sqft

Assume the average home has 1,551 sqft of ceiling area

Assume R-0 as base case, increase insulation to R-38

Savings per ave home	51.40014	dKt/yr		
Cost per ave home	\$ 1,354			
Measure life	30	years		
NPV of gas saved =	\$ 6,835			
Rebate at 50% npv =	\$ 3,418		approx \$ 2.20	per sqft
Rebate per sqft =	\$ 0.44	per sqft	approx 50.4%	of project cost
SPB without rebate	1.87	years		
SPB with rebate	0.93	years		
TRC test	5.05			

Assume R-0 as base case, increase insulation to R-49

Savings per ave home	52.50135	dKt/yr		
Cost per ave home	\$ 1,511			
Measure life	30	years		
NPV of gas saved =	\$ 6,982			
Rebate at 50% npv =	\$ 3,491		approx \$ 2.25	per sqft

Rebate per sqft =	\$ 0.49	per sqft	approx	50.3%	of project cost
SPB without rebate	2.05	years			
SPB with rebate	1.02	years			
TRC test	4.62				

Assume R-11 as base case, increase insulation to R-38

Savings per ave home	16.50264	dKt/yr			
Cost per ave home	\$ 900				
Measure life	30	years			
NPV of gas saved =	\$ 2,195				
Rebate at 50% npv =	\$ 1,097		approx	\$ 0.71	per sqft
Rebate per sqft =	\$ 0.29	per sqft	approx	50.0%	of project cost
SPB without rebate	3.88	years			
SPB with rebate	1.94	years			
TRC test	2.44				

Assume R-11 as base case, increase insulation to R-49

Savings per ave home	18.39486	dKt/yr			
Cost per ave home	\$ 1,080				
Measure life	30	years			
NPV of gas saved =	\$ 2,446				
Rebate at 50% npv =	\$ 1,223		approx	\$ 0.79	per sqft
Rebate per sqft =	\$ 0.35	per sqft	approx	50.3%	of project cost
SPB without rebate	4.18	years			
SPB with rebate	2.08	years			
TRC test	2.27				

Assume R-19 as base case, increase insulation to R-38

Savings per ave home	9.39906	dKt/yr			
Cost per ave home	\$ 656				
Measure life	30	years			
NPV of gas saved =	\$ 1,250				

Rebate at 50% npv =	\$ 625		approx	\$ 0.40	per sqft
Rebate per sqft =	\$ 0.21	per sqft	approx	49.6%	of project cost
SPB without rebate	4.97	years			
SPB with rebate	2.50	years			
TRC test	1.90				

Assume R-19 as base case, increase insulation to R-49

Savings per ave home	11.49291	dKt/yr			
Cost per ave home	\$ 905				
Measure life	30	years			
NPV of gas saved =	\$ 1,528				
Rebate at 50% npv =	\$ 764		approx	\$ 0.49	per sqft
Rebate per sqft =	\$ 0.29	per sqft	approx	49.7%	of project cost
SPB without rebate	5.61	years			
SPB with rebate	2.82	years			
TRC test	1.69				

Foundation/Basement Wall Insulation

Assume 1,440 sqft of wall for the average home

Increase Foundation/Basement wall from R-0 to R-11

Savings per ave home	18.20	dKt/yr			
Cost per ave home	\$ 1,251		at	\$ 0.87	per sqft
Measure life	30	years			
NPV of gas saved =	\$ 2,420				
Rebate at 50% npv =	\$ 1,210		approx	\$ 0.84	per sqft
Rebate per sqft =	\$ 0.44	per sqft	approx	50.7%	of project cost
SPB without rebate	4.89	years			
SPB with rebate	2.41	years			
TRC test	1.93				

Crawlspace Wall Insulation (For conditioned crawlspaces only)

Assume 480 sqft of crawlspace walls for the average home

Increase Crawlspace Wall from R-0 to R-19 - R-20 recommended

Savings per ave home	5.80	dKt/yr				
Cost per ave home	\$ 404		at	\$ 0.84	per sqft	
Measure life	30	years				
NPV of gas saved =	\$ 771					
Rebate at 50% npv =	\$ 386			approx	\$ 0.80	per sqft
Rebate per sqft =	\$ 0.42	per sqft		approx	49.9%	of project cost
SPB without rebate	4.96	years				
SPB with rebate	2.49	years				
TRC test	1.91					

Exterior Above Grade Wall Insulation

Assume 1,440 sqft of exterior wall for the average home

Increase exterior above grade wall from R-0 to R-11

Savings per ave home	31.20	dKt/yr				
Cost per ave home	\$ 1,757		at	\$ 1.22	per sqft	
Measure life	30	years				
NPV of gas saved =	\$ 4,149					
Rebate at 50% npv =	\$ 2,074			approx	\$ 1.44	per sqft
Rebate per sqft =	\$ 0.62	per sqft		approx	50.8%	of project cost
SPB without rebate	4.01	years				
SPB with rebate	1.97	years				
TRC test	2.36					

Exterior Above Grade Wall Insulation

Assume 1,440 sqft of exterior wall for the average home

Increase exterior above grade wall from R-11 to R-21

Savings per ave home	14.22	dKt/yr				
Cost per ave home	\$ 1,757		at	\$ 1.22	per sqft	
Measure life	30	years				
NPV of gas saved =	\$ 1,891					
Rebate at 50% npv =	\$ 945			approx	\$ 0.66	per sqft

Rebate per sqft =	\$ 0.66	per sqft	approx	54.1%	of project cost
SPB without rebate	8.79	years			
SPB with rebate	4.03	years			
TRC test	1.08				

Floor Insulation - over non-conditioned space

Assume 1,888 sqft of floor for the average home

Assume R-0 base case, increase floor insul. to R-19

Savings per ave home	5.80	dKt/yr			
Cost per ave home	\$ 1,907	at	\$ 1.01	per sqft	
Measure life	30	years			
NPV of gas saved =	\$ 771				
Rebate at 50% npv =	\$ 386		approx	\$ 0.20	per sqft
Rebate per sqft =	\$ -	per sqft	approx	0.0%	of project cost
SPB without rebate	23.39	years			
SPB with rebate	23.39	years			
TRC test	0.40				

Assume R-0 base case, increase floor insul. to R-30

Savings per ave home	9.10	dKt/yr			
Cost per ave home	\$ 2,794	at	\$ 1.48	per sqft	
Measure life	30	years			
NPV of gas saved =	\$ 1,210				
Rebate at 50% npv =	\$ 605		approx	\$ 0.32	per sqft
Rebate per sqft =	\$ -	per sqft	approx	0.0%	of project cost
SPB without rebate	21.85	years			
SPB with rebate	21.85	years			
TRC test	0.43				

High Efficiency Windows

Assume 156 sqft of windows in the average home

Replace existing windows with U-0.35 low-e windows

Savings per ave home	5.30	dKt/yr				
Cost per ave home	\$ 7,644		at	\$ 49.00	per sqft	
Measure life	30	years				
NPV of gas saved =	\$ 705					
Rebate at 50% npv =	\$ 352			approx	\$ 2.26	per sqft
Rebate per sqft =	\$ -	per sqft		approx	0.0%	of project cost
SPB without rebate	102.62	years				
SPB with rebate	102.62	years				
TRC test	0.09					

Replace existing windows with U-0.32 low-e windows

Savings per ave home	13.30	dKt/yr				
Cost per ave home	\$ 7,956		at	\$ 51.00	per sqft	
Measure life	30	years				
NPV of gas saved =	\$ 1,769					
Rebate at 50% npv =	\$ 884			approx	\$ 5.67	per sqft
Rebate per sqft =	\$ -	per sqft		approx	0.0%	of project cost
SPB without rebate	42.56	years				
SPB with rebate	42.56	years				
TRC test	0.22					

Storm Windows

Assume 156 sqft of windows in the average home

Install single pane storm windows over single pane windows

Savings per ave home	2.00	dKt/yr				
Cost per ave home	\$ 3,722		at	\$ 23.86	per sqft	
Measure life	30	years				
NPV of gas saved =	\$ 266					
Rebate at 50% npv =	\$ 133			approx	\$ 0.85	per sqft
Rebate per sqft =	\$ -	per sqft		approx	0.0%	of project cost
SPB without rebate	132.42	years				
SPB with rebate	132.42	years				

TRC test 0.07

Efficient Furnace/Boiler

Assume existing furnace/boiler 68% AFUE

Replace existing furnace/boiler with a new 80% AFUE

Savings per ave home	17.65	dKt/yr		
Cost per ave home	\$ 2,000			
Measure life	15	years		
NPV of gas saved =	\$ 1,693			
Rebate at 50% npv =	\$ 847			
Rebate	\$ -		approx	0.0% of project cost
SPB without rebate	8.06	years		
SPB with rebate	8.06	years		
TRC test	0.85			

Efficient Furnace/Boiler

Assume existing furnace/boiler 68% AFUE

Replace existing furnace/boiler with a new 90% AFUE

Savings per ave home	32.35	dKt/yr		
Cost per ave home	\$ 2,500			
Measure life	15	years		
NPV of gas saved =	\$ 3,104			
Rebate at 50% npv =	\$ 1,552			
Rebate	\$ 1,500		approx	60.0% of project cost
SPB without rebate	5.50	years		
SPB with rebate	2.20	years		
TRC test	1.24			

Direct Vent Room Heater

Assume existing room heater 65% AFUE

Assume existing room heater provides space heat for 25% of a 1550 sqft home or 388 sqft

Replace existing room heater with a new 80% AFUE

Savings per ave home	5.51	dKt/yr
Cost per ave home	\$ 750	
Measure life	15	years

NPV of gas saved =	\$	529			
Rebate at 50% npv =	\$	264			
Rebate	\$	-	approx	0.0%	of project cost
SPB without rebate		9.69	years		
SPB with rebate		9.69	years		
TRC test		0.70			

Programmable Energy Star Thermostat

(unit cost = \$51.71, installed cost = \$87.21/unit)

Savings per ave home		4.6875	dKt/yr		
Cost per ave home	\$	87.21			
Measure life		30	years		
NPV of gas saved =	\$	623			
Rebate at 50% npv =	\$	312			
Rebate	\$	30	approx	34.4%	of project cost
SPB without rebate		1.32	years		
SPB with rebate		0.87	years		
TRC test		7.15			

Low Flow Showerhead

(2.5 gpm or less)

Savings per ave home		1.24	dKt/yr		
Cost per ave home	\$	3.99			
Measure life		15	years		
NPV of gas saved =	\$	119			
Rebate at 50% npv =	\$	59			
Rebate	\$	3.99	approx	100.0%	of project cost
SPB without rebate		0.23	years		
SPB with rebate		-	years		
TRC test		29.81			

Low Flow Faucet Aerator

2.2 gpm or less for kitchen & two each 1.5 gpm or less for bathroom

Savings per ave home		0.93	dKt/yr		
Cost per ave home	\$	1.87			(\$1.09 kitchen + \$0.39 each for bathroom)

Measure life	15	years		
NPV of gas saved =	\$	89		
Rebate at 50% npv =	\$	45		
Rebate	\$	1.87	approx	100.0% of project cost
SPB without rebate	0.14	years		
SPB with rebate	-	years		
TRC test	47.71			

Window Shrink Wrap Kit

Savings per ave home	6.47713	dKt/yr		
Cost per ave home	\$	4.22	per box for five 3' x 5' windows	
Measure life	1	years		
NPV of gas saved =	\$	73		
Rebate at 50% npv =	\$	37		
Rebate	\$	4.22	approx	100.0% of project cost
SPB without rebate	0.05	years		
SPB with rebate	-	years		
TRC test	17.33			

Weather Stripping and Sealing

Savings per ave home	3.58	dKt/yr		
Cost per ave home	\$	24.09		
Measure life	10	years		
NPV of gas saved =	\$	264		
Rebate at 50% npv =	\$	132		
Rebate	\$	24.09	approx	100.0% of project cost
SPB without rebate	0.48	years		
SPB with rebate	-	years		
TRC test	10.97			

Assume a weather stripping kit costs \$24.09
Kit consists of:

Weather stripping for 2 doors	\$ 15.86	at \$ 7.93	per door
Door sweeps for 2 doors	\$ 3.38	at \$ 1.69	per sweep
One can of foam	\$ 3.89		
1 pkg outlet plate covers (10)	\$ 0.48		
1 pkg switch plate covers (10)	\$ 0.48		
Total	\$ 24.09		

Appendix C

2009-10 South Dakota DSM Operating Plan

Work Item	Jul-09	Aug-09	Sep-09	Oct-09	Nov-09	Dec-09	Jan-10	Feb-10	Mar-10	Apr-10	May-10	Jun-10	Jul-10	Aug-10	Sep-10	Oct-10	Nov-10	Dec-10
DSM Program Development & Design Review SD gas & electric avoided costs DSM Resource Valuation analysis: Update MT Resource Value Spreadsheet with SD avoided costs Analyze individual DSM measures (gas & elec) against TRC test Select measures that pass TRC Prepare DSM Program designs Set levels for rebates & incentives for each measure Prepare DSM Plan document Establish annual budget Prepare Program Descriptions & Rebate Schedules Establish internal accounting system orders and GA accounts																		
DSM program implementation & operation Residential & Small Commercial Home Energy Audit Program Contracting Contract(s) Administration Marketing/Outreach Residential Lighting Rebate Program (elec) Contracting Contract(s) Administration Rebate Program activity Marketing/Outreach Commercial Lighting Rebate Program (elec) Contracting Contract(s) Administration Rebate Program activity Marketing/Outreach Residential DSM Retrofit Program Contracting Contract(s) Administration Rebate Program activity Marketing/Outreach																		
Regulatory Develop proposed DSM cost recovery mechanisms: DSM Program Costs DSM Lost Revenues DSM Plan Filing with SD PUC Present DSM Plan to SD PUC Staff data requests/responses Annual Regulatory Filings																		
BT: Bill Thomas PB: Pam Boyrud JD: Jeff Decker DSM: All DSM Work Group staff KEMA: KEMA, Inc. (outside contractor)																		

Appendix D

Illustrative Example: True-up of Lost Revenues

Existing Authorized Revenue Requirement: \$10,000
 Sales: 1,000 Units
 Rate: \$10.00 per Unit

General Rate Case in Year 4

Authorized Revenue Requirement: \$10,000
 Sales: 960 Units
 Rate: \$10.42 per Unit

Table 1: Cumulative Reduction in Units Sold due to DSM Between General Rate Cases					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
10	10	10	10	10	10
	10	10	10		10
		10	10		
			10		
10	20	30	40	10	20

Table 2: True-up of Lost Revenues						
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Authorized T&D Revenue Requirement	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000
Units Sold	990	980	970	960	950	940
Rate (\$/unit)	\$10.00	\$10.00	\$10.00	\$10.00	\$10.42	\$10.42
Revenue	\$9,900	\$9,800	\$9,700	\$9,600	\$9,896	\$9,792
Lost Revenue Recovered Through DSM Tracker	\$100	\$200	\$300	\$400	\$104	\$208
Total Revenue	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000

Note: Assumes T&D revenue requirement and annual incremental DSM savings are constant for illustrative purposes.

Appendix E

NorthWestern Energy
Electric DSM Incentive Calculation
September 30, 2009

Original Budget	\$554,800
Energy Savings Goal at Original Budget (KWH)	4,380,000
Multiplier for every 10% of Energy Savings	2.3411%
Estimated Net Benefit at Proposed Filing	\$789,935

Calculation of Estimated Incentives

Derived Numbers Given the Percentage of Net Benefit Awarded at Different Percentages of Energy Savings

<u>Percent of Savings Goal</u>	<u>KWH</u> <u>Savings</u>	<u>Percent of</u> <u>Base</u>	Est. Net Benefits <u>Achieved</u>	Estimated <u>Incentives</u>
100% of Savings Goal	4,380,000.00	2.3411%	\$789,935	\$18,493
110% of Savings Goal	4,818,000.00	4.6822%	\$868,928	\$40,685
120% of Savings Goal	5,256,000.00	7.0234%	\$947,922	\$66,576
130% of Savings Goal	5,694,000.00	9.3645%	\$1,026,915	\$96,165
140% of Savings Goal	6,132,000.00	11.7056%	\$1,105,909	\$129,453
150% of Savings Goal	6,570,000.00	14.0467%	\$1,184,902	\$166,440

Appendix E

NorthWestern Energy
Natural Gas DSM Incentive Calculation
September 30, 2009

Original Budget	\$151,400
Energy Savings Goal at Original Budget (Therms)	200,000
Multiplier for every 10% of Energy Savings	0.5134%
Estimated Net Benefit at Proposed Filing	\$983,025

Calculation of Estimated Incentives

Derived Numbers Given the Percentage of Net Benefit Awarded at Different Percentages of Energy Savings

<u>Percent of Savings Goal</u>	<u>Therm Savings</u>	<u>Percent of Base</u>	<u>Est. Net Benefits Achieved</u>	<u>Estimated Incentives</u>
100% of Savings Goal	200,000.00	0.5134%	\$983,025	\$5,047
110% of Savings Goal	220,000.00	1.0268%	\$1,081,328	\$11,103
120% of Savings Goal	240,000.00	1.5401%	\$1,179,630	\$18,168
130% of Savings Goal	260,000.00	2.0535%	\$1,277,933	\$26,243
140% of Savings Goal	280,000.00	2.5669%	\$1,376,235	\$35,327
150% of Savings Goal	300,000.00	3.0803%	\$1,474,538	\$45,420