

FILE

BEFORE
THE PUBLIC UTILITIES COMMISSION OF OHIO

In the Matter of the Application of Columbia)
Gas of Ohio, Inc. for Approval of a Demand)
Side Management Program for Residential and)
Commercial Consumers.)

Case No. 08-0833-GA-UNC

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APPLICATION OF COLUMBIA GAS OF OHIO, INC.
TO ESTABLISH
DEMAND SIDE MANAGEMENT PROGRAMS
FOR RESIDENTIAL AND COMMERCIAL CONSUMERS

I. Introduction

In this application, Columbia Gas of Ohio, Inc. ("Columbia") seeks approval to implement the Demand Side Management ("DSM") programs described herein. These proposed programs, to be effective for residential and commercial customers for calendar years 2009 through 2011, were developed with the consensus of the Columbia Demand Side Management Stakeholder Group ("DSMSG"), the Office of the Ohio Consumers' Counsel ("OCC"), and in consultation with the Staff of the Public Utilities Commission of Ohio. This Application further addresses the proposed implementation of a DSM Cost Recovery Rider applicable to Small General Service sales customers.

The DSMSG members include Columbia, OCC, Staff, Honda of America Manufacturing, Inc., Ohio Farm Bureau Federation, Ground Level Solutions, Inc., Corporation for Ohio Appalachian Development ("COAD"), Cornerstone Energy Conservation Services, American Society of Heating, Refrigeration and Air Conditioning Engineers - ASHRAE ("HAWA"),

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Industrial Energy Users-Ohio, Mid Ohio Regional Planning Commission ("MORPC"), Ohio Home Builders Association, Ohio Department of Development ("ODOD"), Ohio Partners for Affordable Energy, Ohio Board of Building Standards, Direct Energy, Air Conditioning Contractors of America - Ohio Chapter (Atlas Butler Heating Cooling), The Building Owners and Managers Association (CB Richard Ellis | Global Corporate Services), Neighborhood Housing Services of Toledo, City of Columbus, and Interstate Gas Supply, Inc. M. Blasnik and Associates, and KEMA served as DSM consultants.

II. Columbia's History in Support of Weatherization Programs

Columbia has been a leader among Ohio utilities in developing energy efficiency and weatherization programs. Since 1984 Columbia has been involved with three distinct program approaches to customer energy conservation. Operation HomeCheck, established in 1984, represented Columbia's first partnership with community-based, nonprofit organizations and provided low income customers with energy audits of their homes. Operation HomeCheck developed the capacity to perform more than 11,000 home energy audits annually.

In November 1986, Columbia and its partners added a weatherization component to the existing energy audit service offered through Operation HomeCheck, and provided both an educational and material installation service for 7,149 eligible customers. The average cost per customer served by this program was approximately \$450, and the total cost of this program for 1986 and 1987 was \$3,217,050. Columbia gained many insights through these programs and, influenced by its results from the original program and several other key events that occurred in other energy conservation programs around the country, Columbia set out to design a new weatherization service. This new program, WarmChoice®, was shaped by three planning considerations:

- A 1987 study conducted by Cleveland State University of Ohio's HWAP docu-

mented that strategic combinations of weatherization measures resulted in consistent reductions in gas consumption of more than 20%. The results of this research suggested that Columbia could increase its investment in each home to accommodate attic and sidewall insulation.

- A need existed to better coordinate Columbia's weatherization program with existing federal, state and local programs rather than to duplicate these efforts.
- Proven new technologies in the energy conservation profession provided an opportunity to improve the effectiveness of weatherization services. More sophisticated techniques for diagnosing air leakage and furnace efficiency could be incorporated into an energy conservation program.

To this end, Columbia and its partners, including the ODOD and five community-based organizations ("CBO"), designed the WarmChoice® program. WarmChoice® is a low-income weatherization service provided to eligible Columbia customers. To participate in the program, customers' incomes must be at or below 150% of the federal poverty guidelines. Customers must also be eligible (or approved) for the Home Energy Assistance Program ("HEAP") at the 150% level, HWAP, or the Percentage of Income Payment Plan ("PIPP"). When possible, WarmChoice® works in conjunction with the ODOD's Home Weatherization Assistance Program to combine resources to maximize energy efficiency opportunities in the homes of low-income customers.

Since its inception, the Company's WarmChoice® program has been among the nation's elite residential weatherization programs. The Program's philosophy of comprehensive service enables the local weatherization community-based organizations administering WarmChoice® to provide eligible participants with a complete set of weatherization measures, helping residents to

manage their energy use and, consequently, save on utility bills. The Program's additional focus on health and safety helps to ensure that low-income residents within Columbia Gas' service territory are insulated from the dangers of antiquated, unsafe heating equipment¹ despite income limitations.

In addition, Columbia's partner CBO's leverage a number of other funding sources to perform electric base load energy conservation measures and home repairs so that houses can be weatherized. These programs include the Electric Partnership Program operated by ODOD, and home repair programs funded through the United States Department of Housing and Urban Development ("USHUD"), the United States Department of Agriculture ("USDA"), and the State of Ohio, among others.

WarmChoice[®] providers employ trained inspectors who use blower doors, combustion analyzers, gas leak detectors, and their analytical skills to determine the appropriate set of energy conservation measures and heating equipment for each home. In addition, inspectors identify and attempt to eliminate potential health and safety risks within the home. Participants in the WarmChoice[®] Program may be eligible to receive diagnostically-driven home energy inspections; space and water heating system repair and/or replacement; attic, wall, floor, duct, water heater and water pipe insulation; sealing of major air leaks; and safety checks on gas-fired appliances.

In many cases, the CBO's or their sub-contractors have trained and licensed technicians on staff to perform such work. Otherwise private, for-profit subcontractors complete the heating and weatherization work. After heating-unit work, and again after envelope measures are completed, final inspectors or field supervisors inspect the work. Most technicians and inspectors

¹ For instance, a cracked heat exchanger that would allow combustion gases to mix with delivery air.

are trained at the Ohio Weatherization Training Center, operated by one of the Program CBOs (COAD) for the ODOD. In addition, the Company itself performs quality control inspections on approximately 5-10% of all completed homes.

Over 48,000 families have participated in WarmChoice[®] since its inception in 1987 and more than \$97 Million has been invested in this program. The most recent energy impact evaluation conducted showed Normalized Annual Consumption (“NAC”)² reduction of approximately 320 ccf per customer per year. Given that insulation measures can last 20 years or more, lifetime energy savings to customers provide substantial and ongoing value.

Exemplary features and results of WarmChoice[®] include:

- **Integral and regular evaluation:** Since 1991, Columbia has sponsored 18 evaluations of WarmChoice[®], including impact, process and persistence of savings evaluations. Columbia, in consultation with M. Blasnik and Associates, automated the impact evaluation process in 2005 and 2006, using an approach equivalent to the Princeton Scorekeeping Method (“PRISM”). Columbia used the approach to conduct impact evaluations of five recent program years, 1999-2004.
- **Marketing:** Columbia provides WarmChoice[®] providers with lists of potentially eligible customers in order to effectively market the program. The lists also contain gas consumption data and PIPP arrearage information to help target customers.
- **Proven energy savings:** WarmChoice[®] improved its average savings to customers from 13% in 1990 to 30.5% of pre-treatment NAC in 1998. With an average investment of approximately \$4000 per household, net savings from the 1999 through 2004

² Normalized Annual Consumption (NAC) is the primary consumption index which provides an estimate of consumption under average weather conditions.

programs averaged approximately 27% of pre-weatherization energy use, even though pre-treatment usage among the treated homes has declined.

- Arrearage reductions: The average annual net impact of the program was approximately \$60 and \$147 reduction in arrears during the periods ending August 1999 and April 2001.
- Effective partnerships: WarmChoice® was one of the first utility weatherization programs to use the low-income, community-based organization weatherization network to provide services. While WarmChoice® was originally designed as a stand-alone service, in 1994 the program experimented with a cost-share (also referred to as “combo” or “piggyback”) approach in which the program could share resources with the United States Department of Energy Weatherization Assistance Program, and other services offered by the community-based organizations.
- Data management/warehouse: Columbia archives energy use, payment, arrearage and other customer data for all eligible low-income customers and participants in a series of data tables in order to be able to provide customer marketing lists and for short and long-term evaluation purposes. This data enabled Columbia to conduct a persistence of savings study of the 1990-2000 period for homes previously weatherized. That 2003 study showed there was little, if any, degradation of energy savings over time. The data warehouse also enabled Columbia to automate impact evaluations for program years 1999 through 2004 and will allow for continued impact evaluations of program years going forward as additional data becomes available. The 2005 program year is scheduled for an impact analysis in 2008.

- Innovation: WarmChoice® was one of the first programs in the nation to require the use of blower doors and combustion analyzers during the inspection/audit process. WarmChoice® was an early implementer of replacement high efficiency furnaces for customers whose furnaces could not be repaired. Columbia integrated formal evaluation into its WarmChoice® program design from the start, using the evaluation results to improve and maintain program impacts. The WarmChoice® program focuses heavily on instrumented air sealing and insulation measures, which are a key to achieving energy use reductions in the housing stock treated through the program. In 2005, WarmChoice® received the Ohio Governor's Award for Excellence in Energy Efficiency and was recognized that same year by the American Council for an Energy-Efficient Economy ("ACEEE") as an Exemplary Low-Low Income Energy Efficiency Program. In 2007, WarmChoice® integrated the use of infrared thermography cameras into the program to help assess the quality of insulation and air sealing work.

Clearly, Columbia's successful implementation of WarmChoice® has set the stage for implementing an expanded set of DSM programs that can provide customers with quantifiable value. Beyond the value of energy savings, WarmChoice WarmChoice® and the proposed DSM programs provide other non-energy benefits such as: economic development through hiring of firms and employees to provide DSM services, increased sales of products made in Ohio and sold by Ohio firms, improved health, safety, durability and comfort, reduced greenhouse gas emissions and a lower carbon footprint, and reduced water and electricity consumption. Columbia's DSM proposal also supports Governor Strickland's plan for energy, jobs and progress in Ohio.

III. Columbia's Commitment to New DSM Programs

A. PUCO Case Nos. 05-221-GA-GCR et al

On January 23, 2008, the Public Utilities Commission of Ohio ("Commission") issued an Opinion and Order in Case Nos. 05-221-GA-GCR et al adopting the December 28, 2007 Joint Stipulation and Recommendation ("Stipulation"). This Stipulation was the product of the resolution of comprehensive issues addressed in the aforementioned case which resulted in an extensive agreement between numerous stakeholders. As part of that Stipulation, Columbia agreed to file by July 1, 2008 a DSM application, cooperatively developed by Columbia, OCC, Staff and other stakeholders for approval of comprehensive energy efficiency programs for residential and commercial customers.³ The Stipulation further discussed the DSM application as follows:

- This DSM application shall provide that for calendar years 2009 through 2011, Columbia shall implement comprehensive, ratepayer funded, cost-effective energy efficiency programs made available to all residential and commercial customers.⁴
- This DSM application shall provide that by the end of calendar year 2011, the programs will achieve a verified (based on an impact evaluation) energy usage reduction at a level of three-quarters percent to one percent of Columbia's total annual residential and commercial jurisdictional tariff sales, adjusted for weather.⁵
- As part of this DSM application, funding levels for the residential and commercial energy efficiency programs are anticipated to be up to 1% of Columbia's jurisdictional revenues by 2011, as determined by the test year adjusted revenues set forth on Schedule C-2 in Columbia's base rate case filed in early 2008. Program funding may be increased by up to

³ Joint Stipulation and Recommendation, Case No. 05-221-GA-GCR at 21-22.

⁴ Stipulation at 39.

⁵ Id at 40. The three-quarters to one percent target for energy usage reduction by the end of calendar year 2011

an additional \$1 million per year in 2010 and 2011 assuming that energy efficiency targets are met.⁶

- This DSM application shall provide that the sales volume benchmark will be the total weather adjusted (normalized) annual tariff sales volumes appearing in Columbia's then most recent Ohio Long Term Forecast Report (for example, Total Tariff Sales for 2007 shown in Table (b)(xi) on page 71 of the 2008 report would set the benchmark for 2009).⁷
- The comprehensive energy efficiency programs to be addressed in the DSM application shall be developed through a DSM stakeholder process including Columbia, OCC, Commission Staff, and other interested stakeholders. Columbia shall initiate the DSM Stakeholder process within thirty days of the Commission order adopting this Stipulation and Recommendation. The comprehensive energy efficiency programs shall be cost effective as measured by the Total Resource Cost ("TRC") test as defined by the 2002 "*California Standard Practice Manual: Economic Analysis Of Demand-Side Programs And Projects*," or by other industry-accepted measurement techniques, as determined by the DSM stakeholder group.⁸
- As part of the DSM stakeholder process, Columbia, OCC, Staff and other stakeholders will develop an action plan, using an independent consultant, to determine the potential for energy efficiency savings, suggested programs, and cost-benefit measurement techniques. Other benefits of the programs will be examined including, but not limited to, longer term commodity price decreases resulting from the multi-year program savings.⁹
- Ratepayer funding of administrative expenses and advertising/educational expenses

equates to a volume range of 611,000 Mcf to 815,000 Mcf.

⁶ Id. at 41.

⁷ Id. at 42.

⁸ Id. at 43.

associated with comprehensive energy efficiency programs will be determined in the DSM stakeholder process and the DSM application shall provide that administrative expenses and advertising/educational expenses shall not exceed, in total, 20% of the program cost, unless otherwise modified for a specific program by the DSM stakeholder group.¹⁰

- Based on the above provisions, the Parties anticipate that representative funding levels to be included in the DSM application will approximate those in the table below.

	2009 (\$)	2010 (\$)	2011 (\$)	3-Year Total (\$)
Current Weatherization Program ¹¹	5.5 million	5.5 million	5.5 million	16.5 million
Additional DSM Programs	7.3 million	8.3 million	9.3 million	24.9 million
Total Funding	12.8 million	13.8 million	14.8 million	41.4 million

However, if future state or federal legislation mandates higher levels of energy savings and/or energy efficiency funding than is contemplated in this settlement, Columbia shall use the existing stakeholder process to achieve the required savings/funding targets.¹²

This filing is the DSM Application contemplated by the Stipulation.

B. PUCO Case Nos. 08-0072-GA-AIR et al

On February 1, 2008, Columbia filed its Notice of Intent to File an Application to Increase Rates and to File an Application for Approval of an Alternative Rate Plan of Columbia in PUCO Case Nos. 08-0072-GA-AIR et al. Columbia also filed its Application for Approval to

⁹ Id. at 44.

¹⁰ Id. at 45.

¹¹ As part of its base rate case application in Case No. 08-0072-GA-AIR et al, Columbia has proposed that funding for Columbia's current weatherization program, WarmChoice[®], will be reflected as a component of the calculation of base rates in that application, consistent with prior treatment of the program's expenses. Columbia proposed to increase its current annual funding for WarmChoice[®] from \$5.5 million to \$7.1 million as a component of the calculation of base rates.

¹² Stipulation at 46.

Change Accounting Methods in PUCO Case No. 08-0074-GA-AAM, in which Columbia requested authority to defer expenses incurred in the development and implementation of the DSM programs.

On March 3, 2008, Columbia filed its Application for Authority to Increase Rates for Gas Distribution Service and for Approval of an Alternative Regulation Plan in PUCO Case Nos. 08-0072-GA-AIR et al. As part of its Alternative Regulation Plan Columbia requested approval of the proposed Rider DSM to recover DSM costs, including those deferred expenses incurred in the development and implementation of the DSM programs. (Attachments 1, 2 and 3 in Appendix C provide detailed descriptions on the operation of the riders.)

The Alternative Regulation Plan (see Alt. Reg. Exhibit A: Alternative Rate Plan Description in the March 3, 2008 Application in Case No. 08-0072-GA-AIR) proposed that Rider DSM will be determined annually based on the actual costs of the program for the previous calendar year with rates to become effective the following May 1. In all annual DSM filings that request recovery of costs, Columbia will provide Commission Staff with audited accounting and billing records, prepared by Columbia's external auditor, in sufficient detail to enable the Commission Staff to analyze Columbia's filing. As part of its determination of actual costs, Columbia herewith also proposes to calculate carrying charges on its monthly deferred balance. The interest rate shall be Columbia's weighted cost of debt (currently 5.4%), exclusive of the equity component, and there will be no compounding of the carrying charge.

Columbia's rate case application in Case Nos. 08-0072-GA-AIR et al proposed that Rider DSM would be applicable to all rate schedules only because at the time of the filing the scope of the DSM programs was not defined. Columbia and the DSMSG have now defined the DSM program portfolio and the customer groups benefiting from the programs, and therefore have been able to more specifically define the applicability of Rider DSM to specified rate schedules. Thus, programs costs will be recovered from those customer classes eligible to participate – Small General Service customers (less than 300 Mcf per year) – with rates being developed based on projected throughput for the recovery period.

The instant application seeks approval of the specific DSM programs that Columbia proposes to implement pursuant to the Stipulation in Case Nos. 05-221-GA-GCR et al. Recovery of DSM costs is part of Columbia's rate case application, as explained above, and implementation of approved DSM programs contained in the instant application shall be contingent on approval of the recovery of DSM costs in Case Nos. 08-0072-GA-AIR et al. Columbia is separately filing on this same date a motion in Case No. 08-0072-GA-AIR, in which Columbia requests that the Commission take administrative notice of the filings in this DSM docket so that the Commission may consider the substance of the DSM programs proposed herein as the Commission deliberates the proposed recovery of DSM costs in the rate case dockets.

C. Columbia's DSM Stakeholder Process

Columbia invited all stakeholders from Case Nos. 05-221-GA-GCR et al and other interested parties to participate in its DSM stakeholder process of developing Columbia's DSM Action Plan. On February 13, 2008, Columbia held the first DSMSG meeting. This meeting consisted of an overview of the DSM stakeholder process, the Stipulation in Case Nos. 05-221-GA-GCR et al, DSM requirements, a review of residential program savings potential, and a discussion about commercial DSM program assessment needs.

On March 12, 2008, Columbia held the second DSMSG meeting. On this date, the DSMSG reviewed the roles of the stakeholder group and consultants, reviewed the California Standard Practice Manual cost tests, received an update on in-progress Residential DSM program analyses, and approved the need for a RFP process to hire a commercial DSM consultant. The RFP for the commercial program consultants was provided to the DSMSG for comment and was issued to a list of potential bidders on March 14, 2008 with proposals due on March 31, 2008.

On May 21, 2008, Columbia held the third DSMSG meeting. On this date, the DSMSG reviewed the primary goals of DSM, participated in a presentation and discussion of the recommended residential DSM programs, and was introduced to the commercial DSM winning proposal team from KEMA. KEMA staff presented the commercial action plan development

process and the action plan template that would be used for all DSM programs. The DSMSG agreed to the Residential Programs recommended by the residential DSM consultant, M. Blasnik and Associates, which include Home Performance Program, Low Cost Product Rebates, New Homes Program and Furnace Market Research.

On June 5, 2008, Columbia held the fourth DSMSG meeting. On this date, the DSMSG reviewed the components of the action plan template and participated in a presentation about and discussion of the proposed commercial DSM programs.

On June 17, 2008, Columbia held the fifth DSMSG meeting. On this date, the DSMSG reviewed the roles of the DSMSG and the consultants, participated in a review and discussion of the recommended commercial DSM programs, and reviewed program cost effectiveness, gas savings and estimated budgets. The DSMSG adopted the final recommendations on the proposed commercial programs, which include Small Business Energy Efficiency Incentives, Small Business Energy Saver Audits, Advanced Energy Design Partnership, and Innovative Technology. The DSMSG also adopted exceeding the 20% limit for administration, education and advertising costs for 3 programs – the Residential Low Cost Measure program, the Small Business Energy Saver Audit, and the Advanced Energy Partnership. Overall, program costs for administration, education and advertising are below 20%.

On June 26, 2008, Columbia held the sixth DSMSG meeting to review the draft DSM application.

IV. Cost-Effectiveness Evaluation and Program Selection

A. General

Columbia believes it is in the best interest of its residential and small commercial consumers of natural gas services to provide incentives through programs that promote the installation and implementation of energy efficiency measures and technologies in a cost effective manner. Columbia has approximately 1.3 million residential customers and 70,000 commercial customers on its Small General Service rate schedule. For many of these customers,

the energy efficiency market has many existing barriers to the adoption of efficient technology, including higher incremental costs for high efficiency equipment, lack of consumer education, lack of contractor trade ally training, lack of equipment supply at time of replacement, lack of monetary resources, fear of change and societal costs not being reflected in prices. Accordingly, Columbia and the DSMSG believe that Columbia and its stakeholders need to continue to play a role in promoting and encouraging energy efficiency. Specifically, Columbia must continue to take a lead role in promoting energy efficiency because it has an existing relationship with the consumers, who often view the utility as their primary source of energy information. Columbia's unique relationship between consumers and stakeholders will allow Columbia to meet consumers' needs for information, education, services and financial assistance through technology and incentives to help remove market barriers and speed the adoption of more efficient technologies. Other stakeholders that help make up the DSMSG, which includes consumer advocate groups, contractors, trade allies and numerous energy related organizations, are also an integral part of creating a successful program as these groups interact with the utility and its consumers.

The cost of natural gas has increased substantially in recent years and is expected to remain high and volatile due to the interrelatedness of the global demand for energy and its effect on the pricing of all fuels, including natural gas. Residential and small consumers will benefit from these proposed energy efficiency programs by providing ready access to energy saving measures, which will directly reduce natural gas usage throughout the calendar year improving the affordability of natural gas service. Additionally, customers will benefit by gaining better safety and reliability of their heating equipment, overall efficiency and comfort and electric and water savings. Non-participating customers will also benefit through the establishment of a network of trained providers and enhanced marketplace with better access and availability to state of the art energy conservation techniques promoted by these DSM programs. Moreover, non-participating customers may benefit from the price dampening effects of energy efficiency and from the positive environmental impacts of the programs.

B. Program Selection

Columbia partnered with the DSMSG and independent consultants to determine all aspects of the DSM programs. M. Blasnik and Associates was selected to provide consulting services for residential DSM programs. KEMA was selected to provide consulting services for the commercial DSM programs. The Consultants evaluated potential for energy savings, suggested programs and the cost-benefit measurement techniques. The Consultants also integrated input from the DSMSG into program designs. The DSMSG has reviewed and accepted the programs proposed in this filing.

C. Methodology

M. Blasnik and Associates and KEMA calculated the potential savings from energy conservation measure technologies and products applied across proposed customer participation rates for each DSM program. The Consultants proposed program budgets to implement the program designs, and cost effectiveness tests were applied to each of the programs. Pursuant to the Stipulation in Case Nos. 05-221-GA-GCR et al, the DSM programs must be cost effective as measured by the Total Resource Cost Test ("TRC"), or other industry accepted measurement techniques as determined by the DSMSG, such as the Utility Cost Test ("UCT"), the Participant Cost Test ("PCT") or the Ratepayer Impact Test ("RIM"). The Consultants applied all four of the standard test methodologies from the California Standard Practice manual to the proposed DSM programs.

TRC measures the net costs of a demand-side management program as a resource option based on the total costs of the program, including both the participants' and the utility's costs.

UCT (also referred to as the Program Administrator Cost Test) measures the net costs of a demand-side management program as a resource option based on the costs incurred by the program administrator (including incentive costs) and excluding any net costs incurred by the

participant. The benefits are similar to TRC benefits, although costs are defined more narrowly under UCT.

PCT is the measure of the quantifiable benefits and costs to the customer due to participation in a program. Since many customers do not base their decision to participate in a program entirely on quantifiable variables, this test cannot be a complete measure of the benefits and costs of a program to a customer. Thus, PCT is not a complete measure of the benefits and costs of a program to a customer.

RIM, also referred to as the Non-Participants Test, measures what happens to customer bills or rates due to changes in utility revenues and operating costs caused by the program. Rates will go down if the change in revenues from the program is greater than the change in utility costs. Conversely, rates or bills will go up if revenues collected after implementation of the program are less than the total costs incurred by the utility to implement the program. RIM indicates the direction and magnitude of the expected change in customer bills or rate levels.

All of the proposed programs pass TRC, UCT and PCT with the exception of the Innovative Technology program and those programs that are purely educational or financial in nature. The cost-effectiveness of the Innovative Technology program will be determined through intensive monitoring, verification and evaluation protocols ("M, V and E") before, during and after implementation.

Non-energy benefits were not included in the cost-effectiveness calculations. With the future potential monetization of carbon dioxide and other greenhouse gas ("GHG") emissions, the emissions reductions associated with the reduced use of natural gas (and electricity) that occur from implementing DSM programs would likely improve program cost-effectiveness. For instance, at \$20 per ton for carbon, Columbia DSM program CO₂ reductions of nearly 458,000

tons over the life of the energy conservation measures could be worth approximately \$9 million.

D. Program Recommendations

M. Blasnik and Associates and KEMA performed energy cost-effectiveness tests based on gas savings and budget projections for all DSM programs. Sources for costs of energy conservation measures included impact evaluation studies, engineering calculations and industry sources. Based upon the results of the Consultants' work and discussions with the DSMSG, Columbia proposes that the following DSM programs be implemented.

Residential Programs

- Home Performance Program
- Low Cost Product Rebates
- New Homes Program
- WarmChoice®¹³
- Furnace Market Research¹⁴

Commercial Programs

- Small Business Energy Efficiency Incentives
- Small Business Energy Saver Audits¹⁵
- Advanced Energy Design Partnership
- Innovative Technology Program

Financing

- Energy Efficiency Loan Fund

Detailed descriptions and information on each program are provided in the next section. The results for each cost-effectiveness test based on gas savings and budget projections for all DSM programs are provided in Attachment 1, 2, 3 and 4 in Appendix A.

¹³ The WarmChoice® Low-Income Weatherization Program is part of Columbia Gas of Ohio's portfolio of DSM programs, but is funded through base rates rather than through the Rider DSM.

¹⁴ The Furnace Market Research program will not initially result in energy savings.

¹⁵ The Small Business Energy Saver Audit and the Advanced Energy Design Partnership are low cost educational programs for which energy savings are not projected, but which could occur.

V. DSM Program Descriptions and Action Plans

A. Summary

Columbia is proposing to implement a portfolio of DSM programs that offer a wide range of services to all of its residential customers, and commercial customers who take service under the Small General Services rate schedule. While Columbia will administer all DSM programs, program implementation services will be bid out to third party vendors. Columbia's DSM portfolio is comprised of three program areas: residential customers, small commercial customers, and financing. Columbia proposes to offer such programs beginning January 1, 2009 through December 31, 2011. Columbia has also proposed budgets for each program that shall not be exceeded unless shifting of funds is appropriate (see Section VII, D DSM Program Funding Levels).

The residential programs include a Residential Home Performance retrofit incentive program similar to WarmChoice® for existing dwellings occupied by customers who have incomes greater than 150% of the Federal Poverty Guidelines. The program will work with the existing HVAC contractor network to identify customers who are replacing their furnaces and who may need additional attic and wall insulation and instrumented air sealing. Incentives will be offered to program participants to install these measures, and higher levels of incentives will be offered to customers who install more than one major energy conservation measure. Customers who are just over the 150% FPG level but are at or below 80% of the Area Median Income (USHUD's definition of low income) will be eligible to have 90% of the cost of attic and wall insulation and instrumented air sealing paid for by the program.

With the expiration in 2009 of builder tax incentives for energy efficient new homes, the Residential New Construction Program will offer incentives to homebuilders to continue to build

homes that are 50% more efficient than the 2004 Supplement to the 2003 IECC, which is the basis for the current Federal tax credits offered to builders, equivalent to homes that qualified for the expiring Federal tax credits.

The program will also provide builders with technical assistance and subsidized home energy ratings.

Columbia's Residential Low Cost Measures program will offer rebates to approximately 8,000 customers per year to install Energy Star programmable thermostats and ultra-low flow showerheads. Products will be available on line and/or at local hardware or building supply stores. Eligibility to participate in this program is extended to all customers regardless of income.

Columbia will continue to offer its award-winning WarmChoice[®] program to its low income customers. The expanded funding requested in Case Nos. 08-0072-GA-AIR et al will provide weatherization to 1,750 customers each year.

Columbia is proposing one research project in the first year. The Furnace Market Research project will quantify the high efficiency furnace penetration rate in Columbia's service territory and determine whether there are barriers at the supplier, contractor or customer level that may be overcome in an effort to increase the penetration rate of this technology.

Columbia's primary program for its 70,000 Small General Service commercial customers is the Small Business Energy Efficiency Incentives program. This service will offer rebates for standard and specialty energy conservation measures, including high efficiency heating system, air sealing and improvements to attic and wall insulation, and water heating saving measures. Infrared fryers will also be included for restaurants. Higher use customers will be targeted for services. Energy conservation measures that are not on the standard list of measures can be installed if an energy audit of the facility estimates that such services or energy conservation

measures would be cost effective. Eligibility to participate in this program is extended to all businesses that take service under the Small General Services rate schedule.

In order to move the commercial building market forward, Columbia proposes to offer an education program based on the American Society of Heating, Refrigeration and Air Conditioning Engineers ("ASHRAE") Advanced Energy Design Guides. Educational seminars will be provided to architects, engineers, building developers and owners to help them understand the opportunities beyond first costs¹⁶ to life-cycle costs¹⁷ and energy use of commercial facilities over their life spans as energy prices continue to increase. In addition, Columbia proposes that building science education be part of the training program.

Columbia also proposes an Innovative Technology program that will allow for the testing of both traditional and non-traditional DSM measures in commercial facilities. This could include, for example, solar pre-heating of water in a fire station, rebates and evaluation measurement, and verification assistance to facilities being built to US Green Building Council Leadership in Energy and Environmental Design ("LEED") standards. This program would also include an advisory panel that would rate proposals for competitive matching grants. Because this program is intended to pilot leading edge efficiency technologies, it is proposed that there is no usage limitation for customers participating in this program.

Finally, because of the tightening of credit in the banking industry, Columbia believes that it will need to provide seed capital for an Energy Efficiency Loan Fund so that customers have access to capital to invest in energy efficiency projects. Columbia will work with experts in the finance sector, such as Ohio's Community Development Finance Fund, to determine how a sustainable loan program might be structured to offer low or no interest loans to its DSM participants.

¹⁶ First costs are generally defined as the costs to construct a facility and do not include long term operations and maintenance costs.

¹⁷ Life cycle costs include the costs for operating and maintaining a facility over its useful life.

B. Residential Programs

Home Performance Program

Estimated Budget (2009-11)	Incentives: \$4.5 million Program Services: \$3.5 million Administration, Education & Marketing: \$.7 million (8.3 %) Evaluation: \$0.125 million Total: \$ 8.9 million
Participation & Savings Targets (2009-11)	Participation – Audits: 6,039; Jobs: 3,627 Mcf Savings – Annual: 27,251; Cum. 3yr 148,982; Lifetime 1,635,054
Cost Effective Metrics (2009-11)	Total Resource Cost BCR = 1.48 Utility BCR = 1.36 Participant BCR = N/A (no average incremental cost) Rate Impact = \$0.022/Mcf (years 1-3)

Program Objective	The objective of the Home Performance Program is to encourage the adoption of quality attic and wall insulation and advanced air sealing retrofits in existing homes and to increase the market share of high efficiency furnaces during system replacements. The program offers greater incentives to households with incomes less than 80% of the Area Median who are less likely to be able to afford efficiency upgrades otherwise.
Program Theory or Market Barriers and Approaches to Overcome Them	<p>Residential customers encounter many obstacles in improving the energy efficiency of their homes:</p> <ul style="list-style-type: none"> • Customers lack reliable information on the effectiveness and bill savings of efficiency retrofits • The existing market for home energy efficiency upgrades is fragmented, incomplete, and confusing. Advanced diagnostic air sealing work is essentially unavailable and there is usually little oversight of insulation or HVAC contractors in terms of work quality or performance claims • Many customers have limited funds to pursue energy efficiency retrofits or to select higher efficiency equipment when making a replacement • Even when interested in making improvements, many customers lack the time and expertise to solicit and evaluate contractor bids <p>The Home Performance program will simplify the process of identifying and implementing cost-effective energy improvements through the provision of high quality energy audits, customer financial incentives, and project management. The program will work to build the market for quality Home Performance work by structuring incentives to encourage comprehensive work and by providing contractor training, oversight, and</p>

Program Description	<p>quality control to ensure that capacity is available.</p> <p>The program provides low cost diagnostic energy audits and rebates to customers to help offset the costs of energy efficiency upgrades. The program will be operated by a program administrator contractor.</p> <p>Audits will be conducted by the program administrator to ensure a sound and consistent approach. All program auditors will be certified to perform advanced diagnostic audits. The audit will include installation of some lower cost measures including setback thermostats and low flow showerheads, when applicable. The audit fee will be \$50 and will be rebated to the customer if any major measures are performed.</p> <p>Major program measures will be performed by insulation, air sealing, and HVAC contractors. Contractors must attend a program orientation to be qualified to perform work eligible for rebates. The program administrator will provide project management and oversee the contractors' work quality.</p> <p>Rebates will be offered to customers for insulation, air sealing, and HVAC measures that are deemed cost-effective by the energy audit. Rebates will be equal to 40% of the insulation cost, 60% of the air sealing cost, and \$200 for a high efficiency furnace upgrade. More comprehensive retrofits will be encouraged by increasing the rebates if multiple energy conservation measures are installed to: 60% for insulation, 70% for air sealing, and \$400 for a furnace upgrade.</p> <p>Customers with incomes below 80% of area median income will have a \$20 audit fee and receive rebates of 90% of the insulation and air sealing costs and \$1,000 for a high efficiency furnace upgrade.</p> <p>The program may also provide some type of subsidized financing.</p>
Target Market	<p>All residential customers are eligible for the Home Performance program, but marketing efforts will target customers with high usage (>140 Mcf per year) and customers already replacing an existing furnace.</p> <p>Furnace sales data indicate that high efficiency furnaces may already have nearly a 50% market share in Ohio. This potential free-rider "problem" will be used as a tool to market the HP program to customers and as a means to enlist HVAC contractors as allies in generating leads. The Home Performance program will be the only way for customer to access furnace rebates. This approach can provide the program with a large number of energy audit leads from customers already committed to a major energy project, i.e., replacing a furnace. It is expected that a large fraction of Home Performance participants will come from the existing heating system replacement market and through HVAC contractor referrals.</p>

	<p>Although the heating system rebates will likely include many customers who would have purchased efficient systems anyway (i.e., free-riders), the program is designed to use that fact as a way to market additional less common energy conservation measures while simultaneously limiting the cost of free-ridership by creating a hurdle (the audit) to receive the rebate.</p> <p>The program may also employ some geographic targeting, potentially pre-qualifying some entire neighborhoods for the <80% area median income program segment. Targeting can reduce the costs of program marketing and delivery and, when combined with the lower income segment, may help address the owner/renter dilemma.</p>
Eligible Measures	<p>Attic Insulation and ancillary work (e.g., required venting)</p> <p>Wall Insulation</p> <p>Blower-Door Guided Air Sealing</p> <p>Furnace Replacement: AFUE >92%</p> <p>Programmable thermostats: free during audit</p> <p>Ultra Low Flow Showerheads: free during audit</p>
Implementation Strategy	<p>The program will be operated by a single program administrator who will be charged with developing/providing: the audit tool; technical standards for the work; program administrative procedures and forms, marketing materials, the program tracking system database, and quality control procedures. All of these tasks will be overseen by COLUMBIA staff. The administrator will also provide the in-home audits; follow up with customers; train the contractors; oversee the contractors' work; provide quality control through phone calls, field visits and database analysis; and provide regular program management reports to COLUMBIA with detailed information on program marketing and participation and progress compared to goals and budgets.</p>
Marketing Strategy	<p>Program incentives and marketing will be structured to encourage participation from high use customers and customers replacing existing heating equipment to build the market penetration of insulation and air sealing work and high efficiency furnaces. Targeted marketing is expected to improve program cost-effectiveness by soliciting participation from households that would benefit most from the program measures</p> <p>The primary marketing methods will include direct mail to high use customers and direct contact with HVAC contractors. Marketing will also include press releases and related media work to publicize the program, and a description of the program at all existing company customer contact points such as offices, the web site, and bill inserts. All customers will be provided access to the program.</p>

Residential New Construction Program

Estimated Budget (2009-11)	Incentives: \$3.6 million Program Services: \$2.8 million Administration, Education & Marketing: \$0.4 million (6%) Evaluation: \$0.135 million Total: \$6.9 million
Participation & Savings Targets (2009-11)	Participation – 3,604 homes over 3 years Mcf Savings – Annual: 27,343; Cum. 3 yr 138,033; Lifetime 1,640,579
Cost Effective Metrics (2009-11)	Total Resource Cost BCR = 1.30 Utility BCR = 1.75 Participant BCR = 4.40 Rate Impact = \$0.017/Mcf (years 1-3)

Program Objective	<p>The objective of the Residential New Construction Program is to encourage builders to build homes that are 50% more efficient than the 2004 Supplement to the 2003 IECC, which is the basis for the current Federal tax credits offered to builders, equivalent to homes that qualified for the expiring Federal tax credits.</p> <p>http://www.energystar.gov/index.cfm?c=products.pr_tax_credits#s6</p>
Program Theory or Market Barriers and Approaches to Overcome Them	<p>Builders and new home buyers encounter many obstacles to improving the energy efficiency of new homes:</p> <ul style="list-style-type: none"> • Builders may lack reliable information on the best approaches to achieve high efficiency levels cost-effectively • Homebuyers lack information about energy efficiency and may be unsure of the credibility of builder efficiency claims • Homebuyers may not have the funds to pay for the higher efficiency • Builders may not be sure they can recoup the costs of the upgrades in the sales price <p>The Residential New Construction program will provide builders with training, technical assistance, subsidized home energy ratings, direct financial incentives and marketing assistance for producing efficient new homes that meet efficiency levels as defined by current federal tax credits. The program will also provide training to home energy raters and realtors.</p>

Program Description	<p>The program will begin by performing research on how best to build efficient homes in Columbia's territory. This research will include interviewing builders that have already built qualified homes and performing additional research to explore other options for meeting the goals. The next step will be to provide free training to builders on how to build qualifying homes; training Home Energy Raters on the program requirements, and training realtors to promote the homes.</p> <p>The program will offer free technical assistance to builders and will subsidize the cost of the rating. The program will also provide an incentive of \$1,000 per qualified homes to the builder. If Federal Tax credits are extended, program options for a COLUMBIA stakeholder group to consider include: offering higher levels of incentives, encouraging the construction of a greater number of homes to meet the standard by offering incentives for additional home energy ratings, or reallocating some program funds to other DSM programs in this portfolio.</p>
Target Market	<p>Builders of new, gas heated single family homes built in the COLUMBIA service territory will be the target market for the program. The program will work extensively to recruit major production builders as well as smaller spec builders. There is already a considerable Energy Star home presence in the service territory of nearly 10% of the new home market. Some of these Energy Star builders have been building homes to Tax Credit levels of efficiency and will provide a good resource for determining current approaches that are being used to meet this higher efficiency level.</p>
Eligible Measures	<p>Whatever approaches builders choose to use to qualify for the Federal Tax Credit level of efficiency as determined by a Home Energy Rating.</p>

Implementation Strategy	<p>The program will be operated by a program administrator contractor who will oversee the program implementation. The administrator's work will be overseen by COLUMBIA staff. The research phase of the program start-up may be done by the implementation contractor or separately contracted.</p> <p>The administrator will develop: program procedures and forms for use by raters and builders; marketing materials to promote the program; a program tracking system database for program reporting, management, and evaluation; and quality control procedures. The program administrator will provide training (most likely through a subcontract) and provide a technical staff person to assist builders and raters. The administrator will also promote the program and efficient new homes to builders, realtors, and the public.</p>
Marketing Strategy	<p>The program will have marketing strategies for recruiting builders, promoting the homes to realtors, and helping the builders and realtors market the homes to the public. The marketing to builders and realtors will primarily occur through direct contacts and working through existing builder and realtor organizations. Marketing to the general public will primarily consist of providing assistance to the builders' and realtors' marketing efforts and establishing the program's "brand" with the public.</p> <p>Marketing will also include press releases and related media work to publicize the program, and a description of the program at all existing company customer contact points such as offices, the web site, and bill inserts.</p>

Residential Low Cost Rebates

Estimated Budget (2009-11)	Incentives: \$0.45 million Program Services: \$0.3 million Administration, Education & Marketing: \$0.68 million (44.6 %) Evaluation: \$0.09 million Total: \$ 1.4 million
Participation & Savings Targets (2009-11)	Participation ~ 26,616 rebates over 3 years Mcf Savings- Annual: 8,108; Cum. 3 yr 42,759; Lifetime 243,236
Cost Effective Metrics (2009-11)	Total Resource Cost BCR = 1.85 Utility BCR = 1.52 Participant BCR = N/A (no average incremental cost) Rate Impact = \$0.004/Mcf (years 1-3)

Program Objective	The objective of the Residential Low Cost Rebate Program is to promote the use of low cost, do-it-yourself efficiency retrofits that are cost-effective for Columbia's residential customers. Programmable setback thermostats and ultra low flow showerheads are the two products specifically included in the program design.
Program Theory or Market Barriers and Approaches to Overcome Them	<p>There are some relatively low cost energy efficiency retrofit products that are usually cost-effective for residential customers, but may not be as widely used as they could be. Some reasons for this lack of market share include:</p> <ul style="list-style-type: none"> • Customers may not be aware of the energy savings of some retrofit products • Customers may not be aware of the existence or availability of some retrofit products • Retailers such as home improvement and hardware stores may not stock, or sufficiently promote the benefits of, such products <p>For example, many people are uncertain if a programmable setback thermostat will save them much energy. Many people may also not be aware that ultra low flow showerheads exist that may provide a good quality shower while using much less water than a standard (even low flow) showerhead may use. Local home improvement and hardware stores may not stock such ultra low flow devices.</p> <p>The Low Cost Rebate Program will address these obstacles by providing public education and marketing to enhance the credibility of the energy savings benefits from such products, by offering rebates for the products, and by promoting the availability of qualified products at hardware and home improvement retailers.</p>

Program Description	The program will offer customers rebates of \$25 per Energy Star programmable thermostat and \$10 per ultra low flow showerhead (≤ 1.8 gallons/minute). The products and rebates will be promoted through education and marketing efforts and direct contact with retailers. The program may also provide on-line order fulfillment.
Target Market	All residential customers with gas heat or hot water can participate.
Eligible Measures	Energy Star Programmable Thermostats Ultra Low Flow Showerheads (≤ 1.8 gallons per minute) Other measures may be added
Implementation Strategy	<p>The program will be operated by a program administrator contractor who will oversee the program implementation. The administrator's work will be overseen by COLUMBIA staff.</p> <p>The administrator will develop: program procedures and rebate forms; marketing materials to promote the program; a program tracking system database for program reporting, management, and evaluation; and quality control procedures.</p> <p>The administrator will perform rebate fulfillments and develop an on-line fulfillment option for customers. The administrator will also market the program to the public and retailers.</p>
Marketing Strategy	<p>The program will have marketing strategies for promoting the rebated products to customers and promoting the program to retailers. Marketing to retailers will primarily occur through direct contacts with home improvement stores and hardware stores. Marketing to customers will occur primarily using in-store Point-of-Purchase displays and marketing assistance to retailers. The program will also be marketed through educational and promotional activities such as press releases and media work to publicize the program. The program will also be promoted through the COLUMBIA web site and bill inserts.</p>

Furnace Market Research

Estimated Budget (2009-11)	Incentives: \$0 Program Services: \$0 Administration, Education & Marketing: \$.002 million (2.8%) Evaluation: \$0.080 million Total: \$ 0.082 million
Participation & Savings Targets (2009-11)	Participation – N/A research project Mcf Savings – N/A research project
Cost Effective Metrics (2009-11)	Rate Impact = \$0.0006/Mcf (year 1 only)

Program Objective	The objective of the Furnace Market Research Project is to gain a greater understanding of the heating system market in Columbia's service territory. The results are expected to be used to refine DSM programs and/or develop new programs to capture cost-effective savings.
Program Theory or Market Barriers and Approaches to Overcome Them	<p>Sales data from the Gas Appliance Manufacturers Association (GAMA) indicate that high efficiency gas furnaces comprised 40% of the Ohio residential furnace shipments in the year 2000. National sales data since then has shown a growing market share for high efficiency equipment. Based on this existing market share, a general furnace rebate program was not proposed as part of the DSM portfolio to avoid expending a large fraction of DSM resources on rebates to free-riders.</p> <p>Although the current market share for high efficiency furnaces may be approximately 50%, the available data does not include sales by market segment, which may be able to help identify opportunities for DSM program interventions. For example, the market share of high efficiency equipment may be much lower in rental housing or in certain geographic regions or among certain demographic groups. Market shares may also differ between the replacement market and the new construction market. Given the large potential energy savings from increasing the market share of high efficiency furnaces, a market research project is needed to help identify strategies for capturing these savings cost-effectively.</p>
Program Description	<p>The Furnace Market Research Project will perform research to identify the market share of efficient furnaces in different market segments and help identify opportunities for potential DSM program designs. The project will involve interviews and/or surveys with key market actors, including equipment distributors and dealers, HVAC contractors, and furnace purchasers (homeowners and landlords). The project may also collect data from industry sources such as GAMA and manufacturers.</p> <p>The research project will be performed by a contractor selected through a</p>

	competitive bidding process and overseen by Columbia's staff.
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WarmChoice® Low-Income Customer Weatherization Program¹⁸

Estimated Budget (2009-11)	Program Services: \$19.6 million Administration, Education & Marketing: \$1.4 million (6.6%) Evaluation: \$0.03 million Total: \$21.3 million
Participation & Savings Targets (2009-11)	Participation – Jobs/Households served: 5,250 Mcf Savings – Annual: 56,875; Cum. 3yr 170,625; Lifetime 3,412,500
Cost Effective Metrics (2009-11)	Total Resource Cost BCR = 1.24 Utility BCR = 1.19 Participant BCR = N/A (no cost to participants)

Program Objective	The objective of the WarmChoice® low-income customer weatherization program is to reduce the energy usage and bills of low income customers by installing attic and wall insulation, advanced air sealing and some low cost retrofits such as water heater insulation, pipe insulation and low flow showerheads. Defective heating appliances that can not be repaired are replaced with high efficiency heating appliances, if applicable. Defective water heaters may also be replaced.
Program Theory or Market Barriers and Approaches to Overcome Them	<p>Low Income Residential customers encounter many obstacles in improving the energy efficiency of their homes:</p> <ul style="list-style-type: none"> • Customers have limited funds to pursue energy efficiency retrofits or to select higher efficiency equipment when making a replacement • Customers lack reliable information on the effectiveness and bill savings of efficiency retrofits <p>The WarmChoice® program will simplify the process of identifying and implementing cost-effective energy improvements through the provision of diagnostically-driven inspections, no cost energy efficiency retrofits, and project management.</p>

¹⁸ The WarmChoice® Low-Income Weatherization Program is part of Columbia Gas of Ohio's portfolio of DSM programs, but is funded through base rates rather than through the Rider DSM.

Target Market	All low income residential customers at or below 150% of the federal poverty guidelines are eligible for WarmChoice®, but mobile homes must use 1000 ccf annually to be treated by WarmChoice®. Mobile homes using less than that amount are weatherized by the state of Ohio's federally-funded Home Weatherization Assistance Program (HWAP). Providers are encouraged to target PIPP customers and customers with high usage. Program providers frequently combine WarmChoice® with HWAP, the state's Electric Partnership Program, and various HUD or USDA funded home repair programs in addition to Ohio's Housing Trust Fund Home Repair program.
Eligible Measures	Attic Insulation and ancillary work (e.g., required venting) Wall Insulation Floor Insulation over Unheated Spaces Water Heater, Pipe and Duct insulation Blower-Door Guided Air Leakage and Duct Sealing Furnace Repair or Replacement (if defective): AFUE >92% for Forced-air Furnaces Water Heater Repair or Replacement (if defective) Low Flow Showerheads
Implementation Strategy	The program is be operated by five community-based organizations (providers) that perform the energy inspections; use HWAP and COLUMBIA technical standards for the work; program administrative procedures and forms, marketing materials, the program tracking system database, and quality control procedures. All of these tasks are overseen by COLUMBIA staff. The providers also perform customer education, follow up with customers; train the contractors; oversee the contractors' work; provide quality control through phone calls, field visits and database analysis; and provide regular program management reports to COLUMBIA with detailed information on program participation and progress compared to goals and budgets.

Marketing Strategy	Columbia provides the WarmChoice® providers with a list of potentially eligible customers from its DIS system. Providers also use the HWAP and HEAP intake process and HEAP lists to recruit customers into the program. Providers use tele-recruiting, letters and community events to publicize the availability of the program.
Evaluation Plan	<p>The WarmChoice® program evaluation system is an automated program created by Michael Blasnik and Associates in Stata, a statistics software program. The system uses billing data from participant and non-participant (control group) homes with WarmChoice® participant energy conservation measure data (Schedule F) submitted by the WarmChoice® providers to perform a PRISM equivalent, but improved, analysis procedure and estimate of weather adjusted gross and net savings caused by the program. A variety of weather station location data from throughout the service territory in Ohio is used in the weather normalization process. The system output contains an HTML file with links to tables, graphs, and other program metrics.</p> <p>PRISM-type evaluations lag program years due to the preference of obtaining 12 months of actual meter readings for pre- and post-treatment periods. Because Columbia reads meters every other month, the lag period can increase to 2 years after the completion of a program year to obtain the actual, usage data based savings estimates. However, the program has had impact evaluations conducted recently for program years 1999-2004 that indicate remarkable consistency in energy savings from year to year.</p>

C. Commercial Programs

Small Business Energy Efficiency Incentives Program

Estimated Budget (09-11)	Incentives: \$2.4 million Program Services: \$.475 million Administration, Education & Marketing: \$.6 million (17.4 %) Evaluation: \$.125 million Total: \$3.5 million
Participation & Savings Targets (09-11)	Participation – 3,600 customers Mcf Savings – Annual: 22,027; Cum. 3 year: 128,958; Lifetime: 660,797
Cost Effective Metrics (09-11)	Total Resource Cost BCR: 1.05 Utility BCR: 1.69 Participant BCR: 2.29 Rate Impact: \$.10/Mcf (years 1-3)

Program Objective	The objective of the Small Business Energy Efficiency Incentives program (“SBEEIP”) is to provide DSM opportunities to businesses using <300 Mcf annually by providing rebates to encourage adoption of select energy efficiency products and services. The program focuses on replacing existing energy inefficient natural gas equipment, and encourages customers to move up to higher than standard efficiency models when purchasing additional equipment for their business. The program also provides incentives to improve thermal integrity of the building shell and other systems.
Program Theory or Market Barriers and Approaches to Overcome Them	Business owners are facing increasing energy costs along with other costs that impact the profitability of their business. This is especially true for Business that depends on gas-fired technologies for production and maintaining comfort for their employees and customers. Business customers are not always aware of which product model is the most energy efficient or how choosing higher efficiency models can lower their energy bills. Business owners are also reluctant to move to the higher efficiency model due to the incremental costs. Other barriers to adoption include: <ul style="list-style-type: none"> • Limited facility staff in small businesses, lack of a dedicated energy manager and limited time to dedicate to research of energy efficiency. • The time and costs associated with selecting contractors/vendors to implement energy efficiency measures and projects. • The initial capital investments associated with energy efficiency improvements along with lack of return on investment information • Lack of benchmarking and payback data to help make a case for

	<p>investing in energy efficiency in a competitive market.</p> <p>The SBEEI program will help customers navigate through what is now a complicated and sometimes intimidating process of determining what energy efficiency options they should consider when replacing gas-fired equipment or when upgrading the thermal efficiency of their building. The program will offer: upfront audits to identify specific energy efficiency recommendations, rebates for a menu of appropriate energy efficient products, and, the option of participating via direct install where the contractor will install the measures and reduce the costs by the prescribed rebate or the customer can redeem their rebate directly with COLUMBIA via online or mailed applications.</p>
Program Description	<p>The program provides rebates to help offset the incremental cost of moving to higher efficiency models when retrofitting current equipment, or purchasing additional equipment. The program prescribes what measures may be installed in a straightforward and customer-friendly manner that helps ensure customers have a hassle-free, reliable means to make their business more energy efficient. The program design makes customer participation easy and hassle-free because:</p> <ul style="list-style-type: none"> • The program lists specific energy saving products and services, so the customer does not need to take time to search out energy efficiency technologies. • The customer purchases the product from whomever they choose and has it installed at their account address. • The customer can elect to work with a participating contractor for direct installation of the qualifying measure and receive the rebate from the total costs of the project. • The customer can complete the rebate form online, print, and send it in along with the itemized paid invoice and shortly thereafter, receive a rebate check. <p>The program may also target companies that have completed the Small Business Energy Saver on-line energy audit to offer additional assistance.</p>
Target Market	<p>Business customers with <300 Mcf annual. Total customers eligible: approximately 70,000. Key building classifications that comprise the small general services commercial segment include: Offices, Retail, Foodservice, and Automotive, among others.</p>
Eligible Measures	<p>Low flow fixtures Efficient water heater Programmable thermostats Replacement Heating Systems AFUE>90 Duct Sealing Thermal Envelope Insulation Water heater tank/ Water Pipe Insulation Tankless water heater Infrared Fryer for restaurants</p>

	Other measures as determined by the energy audit process.
Implementation Strategy	<p>The program will use multiple delivery channels with minimum work required by the customer.</p> <p>As with other best practices programs, COLUMBIA will rely heavily on vendors and local HVAC contractors to help deliver the program. Local vendor participation is a key driver to successfully bringing eligible products directly to the customer and making the purchase of energy efficient equipment convenient. COLUMBIA or its contractors will develop materials and seminars to educate and train vendors and contractors on qualifying measures and will help them increase their product lines to better meet the needs of business customers.</p> <p>COLUMBIA may offer incentives to contractors who directly install the qualifying measures to address a key market barrier (asymmetrical information) where the contractors may be reluctant to promote the energy efficient equipment if they fear the customer may be resistant to the additional cost.</p> <p>COLUMBIA may bring in third-party contractors to deliver turnkey energy efficiency programs that include direct installation of qualifying measures. Employing energy efficiency contractors experienced in program design and implementation will allow COLUMBIA to launch programs quickly and use existing resources more efficiently versus the alternative of having to recruit and train only new resources.</p> <p>The program may also target companies that have completed the Small Business Energy Saver on-line energy audit to offer additional assistance.</p>

Marketing Strategy	<p>The marketing strategy will employ a multi-faceted approach. This approach involves using a combination of mail-outs, one-on-one contact, media, and coordinated efforts with contractors and vendors. The marketing plan objective is to provide all customers with equitable access to the program. The approach may include:</p> <ul style="list-style-type: none"> • Multi-lingual marketing materials including bill inserts, brochures, press releases, e-mail marketing, trade ads, local newspaper ads, etc. • Face-to-face contact with customers via; account executives, contractors, customer service reps, call centers, trade shows, community events, etc. • Web-site information, printable application forms, etc. <p>COLUMBIA may also assist local businesses that sell energy efficient equipment to develop informational pieces for distribution to their own customers.</p>
Other Considerations	<p>Other strategies may help supplement the success of this program:</p> <ul style="list-style-type: none"> • Financing

Small Business Energy Saver Audit Program

Estimated Budget (09-11)	Administration, Education & Marketing: \$25,964(100%) Program Services: \$24,727 Evaluation Costs: \$0 Total Costs: \$25,964
Savings Targets (09-11)	Total Annual Mcf: N/A 3 Year Cumulative Mcf: N/A
Cost Effective Metrics (09-11)	N/A

Program Objective	The objective of the Small Business Energy Saver Audit program is to educate customers on how their businesses use energy and what cost-effective opportunities exist to lower their energy bills. Columbia will use the audit data base to help generate leads for businesses using < 300 Mcf annually to participate in the Small Business Energy Efficiency Retrofit program and the Small Business Targeted Retrofit program.
Program Theory or Market Barriers and Approaches to Overcome Them	<p>Small Business owners are facing increasing energy costs along with other costs that impact the profitability of their business. These business customers are not always aware of what actions they can take to help them save on their energy bills. Many small business owners have expressed the need for tools to help them assess their energy use, to identify different energy efficiency options, and to help them determine the return on investment for taking action.</p> <p>Specifically, business owners are looking for tools and resources that:</p> <ul style="list-style-type: none"> • Simplify their research on energy efficiency options, including information on what practices and measures will help reduce their costs. • Provide benchmarking on best practices being used by similar businesses to manage energy costs. • Provide payback data to help them assess the expected return for investing in energy efficiency. <p>The Small Business Energy Saver Audit program will help customers navigate through what is now a complicated and sometimes intimidating process of determining what energy efficient options they should consider when replacing gas-fired equipment or upgrading other building systems. The program will provide an on-line energy audit to identify specific energy efficiency improvements the customer can undertake.</p>

Program Description	<p>The SBES program is a customized version of an energy savings software application offered by Nexus Energy Software and is a web-based tool available at: http://www.business.ohio.gov.</p> <p>The on-line energy audit tool integrates information provided by the customer to produce customized energy saving recommendations. The tool prescribes what energy efficient actions the customer should implement in a very straightforward and customer-friendly manner that helps ensure customers have a reliable means to make energy efficiency decisions. With this information the customer can:</p> <ul style="list-style-type: none"> • Quickly identify basic low-cost energy-saving opportunities. • Get information on actions requiring more investment along with web links to Columbia's available DSM programs • Get information on resources available for project assistance. • Compare their energy use to similar businesses. • View examples of how similar businesses save energy. <p>Customers will be given the opportunity to work directly with COLUMBIA to follow-up on recommendations made regarding measures included in Columbia's other commercial DSM programs. COLUMBIA will help customers to:</p> <ul style="list-style-type: none"> • Create a project plan based on estimated paybacks of detailed recommendations. • Prioritize which specific projects/recommendations they should work on first. • Direct them to qualifying vendors and contractors who will implement the recommendations, including helping them to complete the rebate applications.
Target Market	<p>Business customers with <300 Mcf annual usage. Total customers eligible: approximately 70,000.</p>
Implementation Strategy	<p>The audit can be customer-activated using the web-tool or offered by contractors implementing Columbia's Small Business Energy Efficiency Incentive Program.</p> <p>Other utility programs have measured that at least 20-30% of customers who complete an audit will also participate in a rebate program based on audit recommendations without active follow-up. COLUMBIA will employ multiple strategies to encourage customers to follow-up on recommendations to install or replace energy efficient measures, and to participate in a DSM program.</p> <p>Actions COLUMBIA will take include compiling a database of recommendations and using this as a lead generator for direct mail solicitations from COLUMBIA. COLUMBIA may also conduct follow-up phone calls</p>

	<p>directed to customers whose recommendations may result in >20% savings on their annual energy bill.</p> <p>Finally, COLUMBIA will employ a “continuous improvement” approach used by other utilities with best practice programs. COLUMBIA will encourage businesses that have previously completed an audit or participated in a rebate program to complete an audit every one to three years to determine if there are more opportunities to improve their energy use profile.</p>
Marketing Strategy	<p>Columbia’s marketing strategy for the on-line energy audit tool will be comprised primarily of a combination of mail-outs, one-on-one contact, and web site links. The approach may include:</p> <ul style="list-style-type: none"> • Multi-lingual marketing materials including bill inserts, brochures, press releases, e-mail marketing, trade ads, local newspaper ads, etc. • Face-to-face contact with customers via utility personnel, contractors, customer service reps, call centers, trade shows, community events, etc. • Link to the SBES Website from the COLUMBIA website.
Other Considerations	<p>Other strategies may help supplement the success of this program:</p> <ul style="list-style-type: none"> • Co-marketing with other Ohio utilities supporting the Small Business Energy Saver program.

Advanced Energy Design Partnership Program

Estimated Budget (09-11)	Administration, Marketing & Education Costs: \$.232 million (100%) Program Services: \$.167 million Evaluation Costs: N/A Total Costs: \$.232 million
Savings Targets (09-11)	N/A
Cost Effective Metrics (09-11)	N/A

Program Objective	The objective of this program is to facilitate the education and training of building industry professionals and owners on the benefits of building energy efficient small buildings that are at least 30% more efficient than the commercial energy efficiency building code in place in Ohio during the time of this program.
Program Theory or Market Barriers and Approaches to Overcome Them	<p>There currently is a wealth of information and programs available nationwide such as Energy Star High Performance Homes and High Performance Schools and LEED certification that encourages energy efficiency building practices in residential and medium to large commercial new construction. These programs include design assistance, incentives for designers, and builder performance incentives for meeting specific energy efficiency targets that are above the state and national energy standards.</p> <p>While small commercial buildings with up to 20,000 square feet may comprise the majority of office space, there appear to be few energy efficiency programs designed exclusively for the designers, builders, developers and owners of these small buildings. Unlike working with the home builder segment where one builder could represent hundreds of homes, participation from this segment could potentially produce a high volume of new buildings that would most likely require individualized attention. Utility programs that include designer and builder incentives may have a difficult time being cost effective with this segment given the potential for higher costs per unit.</p> <p>Many designers and builders in this category are unaware of, or reluctant to implement, integrating energy efficiency into their designs due to a lack of true understanding of the approach and perceived budget constraints.</p>

	<p>Other perceived barriers to adoption may include:</p> <ul style="list-style-type: none"> • Limited time to research of energy efficiency options. • Lack of understanding or experience with energy modeling tools. • Low awareness of latest energy efficient technologies and their interactive effects. • Perception that client would not pay for equipment upgrades. <p>Having a program that provides education and training, as well as tools that are easily accessible, will help minimize the time and resources to locate the right information for designing efficient buildings. Studies have shown that designers value the hands on training just as much, if not more, than the incentives. Also, providing one-on-one consultation when planning for construction of multiple units would provide further guidance on efficient design and help keep utility costs down.</p> <p>Small business owners and those who lease small buildings face increasing energy costs along with other costs that impact the profitability and viability of their businesses. Having a high performance building using less energy would be a benefit and produce a win-win to the business owner and to the utilities who are trying to manage resources.</p>
Program Description	<p>This program would seek to partner with: the electric utilities in the COLUMBIA service territory that currently have commercial new construction programs, building trade associations such as AIA, BOMA, BIA, and ASHRAE, and, energy efficiency trade groups that are engaged in promoting energy efficiency in new construction. The program would include technical consulting and training (including, potentially, continuing education credits) on incorporating high efficiency natural gas technologies into new, small building construction.</p> <p>There are no direct incentives to customers, designers, or builders under this program; rather the program would provide a funding stream to trade allies and utility partners to support disseminating education and training on how to incorporate the latest energy efficiency technologies into new construction. COLUMBIA will also offer direct technical design assistance for building industry professionals who are engaged in developing new construction plans for multiple small buildings. The program will emphasize incorporating building shell, space heat, water heat and efficient gas appliances.</p>
Target Market	<p>Building owners and designers of new, small building construction with estimated square footage of 20,000, including small offices, retail, foodservice, etc. This includes builders who also build strip centers and franchise owners with multiple sites that individually meet the 20,000</p>

	square foot threshold.
Eligible Measures	N/A
Implementation Strategy	<p>The program will leverage existing information and programs from key industry groups that promote energy efficient building design such as; AIA's Sustainable Design Resources available at: http://www.aiacolumbus.org and ASHRAE's Advance Energy Design Guide series available at: http://www.engineeringforsustainability.org. ASHRAE's guides include two guides specifically for designing small retail and small office buildings with footprints of up to 20,000 sq. ft. The guides' 30% energy savings target is above ASHRAE's Standard 90.1. The program will provide education on the integrated design process and advanced technologies to achieve 30% to 50% energy reductions. If federal tax credits for new commercial construction are extended and allow tax deduction for buildings that use 50% less energy than a building designed to ASHRAE 90.1, the program will provide education on how to reach the maximum potential.</p> <p>The program will include developing training modules on whole building and system design practices and tools that incorporate natural gas technologies for presenting at ongoing new construction seminars delivered building trade groups. COLUMBIA will procure building design and building science consultants to provide one-on-one technical consultations for builders and designers engaged in designing small building new construction projects that include multiple units (i.e., strip centers, franchisees with multiple locations) in COLUMBIA territory.</p> <p>Finally, the program will include a recognition award component where a non-monetary reward (i.e., plaque for display, etc.) may be given to builders and owners who build energy efficient buildings that exceed the building energy code by 30% to 50% using knowledge gained from seminars, consultations, demonstrations and/or recommendations from energy efficiency audits.</p>
Marketing Strategy	<p>Marketing strategies will seek to tie-in to existing marketing strategies employed by the electric utilities and trade groups promoting sustainable small building new construction. COLUMBIA will provide additional funding to expand the messaging in existing material to include information on high efficiency natural gas technologies. The additional funding should also help with expanding the reach of the outreach strategies to include industry specific medium. The marketing may include:</p> <ul style="list-style-type: none"> • PR releases to building professionals and their associations in the

	<p>COLUMBIA service territory.</p> <ul style="list-style-type: none"> • Ads in building professional trade publications. • Face-to-face contact with customers via contractors, customer service reps, call centers, trade shows, community events, etc. • Information on the COLUMBIA website. • Develop nonresidential small building new construction web portal.
Other Considerations	<p>Other strategies may help supplement the success of this program:</p> <ul style="list-style-type: none"> • Cooperative education and training with trade associations and educational institutions. • Collaborations with ongoing commercial programs with electric utilities. • Partnering with local governments engaged in building and small municipal buildings. • Partnering with High Performance Schools program from EPA. • Partnering with EPA's Energy Star Commercial Building Design program.

Innovative Technology Program (ITD)

Estimated Budget (09-11)	Administration, Education & Marketing Costs: \$.05 million (8.1 %) Program Services: \$.48 million Evaluation Costs: \$.09 million Total Costs: \$.62 million
Savings Targets (09-11)	To be determined on an individual project basis.
Cost Effective Metrics (09-11)	To be determined on an individual project basis.

Program Objective	The objective of the Innovative Technology Demonstration (ITD) program is for COLUMBIA to provide opportunities to support research and to showcase leading-edge natural gas conservation approaches and technologies for future program development. By providing direct funding to this program for specific COLUMBIA customer projects and those that have gas efficiency as a secondary benefit, COLUMBIA will ensure that innovative customers will benefit from its DSM program portfolio.
Program Theory or Market Barriers and Approaches to Overcome Them	<p>Business owners are facing increasing energy costs along with other costs that impact the profitability of their business. This is especially true for business that depends on gas-fired technologies for production and maintaining comfort for their employees and customers. Some business customers are also seeking more energy efficient options due to their corporate commitment to sustainable environmental practices. These business customers are more likely to fall in early adopter category for innovative energy efficiency products and services. However, as with most businesses, they are not always aware of which product models or approaches are the most energy efficient alternatives available.</p> <p>Providing competitive, live demonstrations, either onsite or at public institutions, provides early adopters with real world experience on what to expect when introducing new or highly efficient technologies into their business. Other utility programs have proven in their evaluations that providing the innovative and early adopter customers the opportunity to view demonstrations and/or providing them the case study results from the demonstrations are more effective in educating and influencing energy efficient product and practice adoptions than simple brochures and information packets that describe the technology.</p>

Program Description	<p>COLUMBIA will collaborate with potential partners in its service territory and with other industry groups engaged in researching existing and emerging energy efficient technologies to develop demonstration projects to promote leading edge energy efficiency approaches.</p> <p>The program will seek to partner on projects that demonstrate the highest level of energy efficiency achievable today for a whole premise using the latest energy efficiency technologies alongside electric and water saving technologies; or, COLUMBIA will seek to develop individual projects that demonstrate the energy savings advantage of specific technologies for a particular customer segment (i.e., solar water heating for schools, firehouses, etc.)</p> <p>This will be a competitive award program that provides a matching funding stream to support research into technologies that may be added to the portfolio of programs offered by COLUMBIA in the future. The program may offer funding in the form of award grants to winning projects or proposals submitted by customers or trade groups that demonstrate innovative application of energy efficient technologies. The program will emphasize incorporating emerging high efficiency technologies, existing high efficiency technologies, or use of renewable technologies to off-set or enhance natural gas technologies.</p>
Target Market	COLUMBIA commercial customers.
Eligible Measures	To be determined on a case-by-case basis.
Implementation Strategy	<p>An advisory committee comprised of partners such as other utilities, research institutions (i.e., universities, etc.) trade groups, advocacy groups, and customers, may be established to help provide suggestions for research and project demonstrations. Members of this group could also participate and/or provide funding for demonstrations and review the results of program-funded projects.</p> <p>Once projects are identified, the advisory committee may form subgroups to facilitate implementing the projects. This would include determining products to showcase, the type of demonstration (i.e., case study in a lab or at a customer site), contractor selection as needed, measurement and verification plan, final budget, schedules, marketing plan, etc.)</p> <p>Projects are limited to an eighteen month window for project planning, implementation, and results. As such, most projects will focus on technologies that are commercially-ready, known to produce viable energy savings, but have low market awareness, and possibly high-first costs with the potential of costs coming down as awareness and demand grows.</p>

	The advisory committee will monitor the projects to assess whether the funding is adequately supporting research into appropriate technologies.
Marketing Strategy	<p>Marketing and outreach strategies may vary depending on the type of projects and the targeted audience. Strategies may include:</p> <ul style="list-style-type: none"> • Face-to-face contact with customers to alert them to the demonstration site via; utility staff, contractors, trade shows, community events, etc. • Website information • Direct mail to targeted groups • PR campaign
Other Considerations	<p>Other strategies may help supplement the success of this program:</p> <ul style="list-style-type: none"> • Availability of tax credits for key technologies such as solar • Cooperative education and training with trade associations • Vendor participation/donation of technologies • Aligning demonstrations/projects with national efforts to promote key technologies

D. Financing

Energy Efficiency Loan Fund

Estimated Budget (2009-11)	Program Services: \$.78 million Administration, Education & Marketing Costs: \$.068 million (5.9 %) Total Costs: \$1.146 million
Participation (2009-11)	Participation – Businesses/Households served: 3,000
Cost Effective Metrics (2009-11)	N/A

Program Objective	The objective of the Energy Efficiency Loan Fund is to provide alternative sources of financing of energy conservation measures.
Program Theory or Market Barriers and Approaches to Overcome Them	<p>Residential and small commercial customers encounter many obstacles in financing the energy efficiency of their homes and buildings.</p> <ul style="list-style-type: none"> • Credit markets have tightened. • Energy conservation service providers may not have access to financing models for their customers. <p>The Energy Efficiency Loan Fund program will simplify the process of financing cost-effective energy efficiency improvements for customers and contractors who may not have access to standard bank financing.</p>
Target Market	Customers/contractors with insufficient access to energy conservation measure financing opportunities.
Eligible Measures	Any energy conservation measure that reduces gas use and which is identified in Columbia's Residential or Commercial DSM Action Plans.
Implementation Strategy	Columbia will work with the Ohio Community Development Finance Fund and/or other finance organizations to determine the best strategy for capitalizing the loan fund and providing the loans.
Marketing Strategy	The loan fund will be marketed with all DSM programs except the Residential Low Cost Measures program and the Small Commercial Advanced Energy Partnership.
Evaluation Plan	Loan fund metrics will be tracked and reported on a monthly basis.

VI. Program Evaluation Plan

Through the stakeholder process, the DSMSG continues to learn what programs have been most effective and how to improve existing programs over time. Columbia realizes that it is imperative to implement a program evaluation plan to achieve the long term success of cost-effective programs. Columbia will use several strategies to evaluate the effectiveness of the proposed programs, including third party independent evaluation.

Interim impact evaluation reports will be prepared based on conservative energy engineering estimates of gas usage reductions using customer participation and energy conservation measure penetration rates. (See Appendix B for Program Evaluation Schedules.) Columbia will also utilize weather normalized, billing analysis based impact evaluations using an improved alternate approach to the PRISM model. This analysis will determine the net savings from programs by comparing participant and equivalent non-participant (control group) changes in gas use. This data will then be used to determine the realization rate of the energy engineering estimates.

Columbia will work with evaluation consultants to automate some of the program impact evaluation processes by building on routines already developed for the WarmChoice® Program. Such routines are written for Stata®, a statistics software program that is used by Columbia in the WarmChoice® program, and make up the existing impact evaluation system that uses actual customer billing data from participant and non-participant (control group) homes. These routines also take into consideration participant energy conservation measure data and other demographic data submitted by the program implementers to perform an improved PRISM equivalent analysis procedure and estimate of weather adjusted gross and net changes in gas usage caused by the DSM program. The weather normalization process uses a variety of weather station location data from throughout Columbia's service territory in Ohio. The system output will contain an HTML file with links to tables, graphs, and other program metrics. Automation of the impact evaluation

process will result in reduced impact evaluation costs (2.3% of total budget costs, compared to the industry accepted practice of 5%).

Using actual metered billing data provides more accurate results and realistic estimates of program impacts as compared to projected savings from energy engineering estimates. PRISM results can then be compared with a secondary econometric model as a cross check of the savings results. Accuracy of the results is crucial in determining program savings and cost-effectiveness, and for determining accurate non-energy benefits such as Green House Gas emissions reductions. PRISM-type evaluations lag program years due to the preference of obtaining 12 months of actual meter readings for pre and post-treatment periods. Because Columbia reads meters every other month, the lag period can increase to 2 years after the completion of a program year to obtain the actual usage data based savings estimates. However, the WarmChoice® program has had impact evaluations conducted recently for program years 1999-2004 that indicate remarkable consistency in energy savings from year to year at a fraction of the cost of non-automated impact evaluations. In addition, we will experiment with processes that use estimated reads and shorter meter reading periods through the WarmChoice® evaluation process to determine whether using less data will still provide statistically robust estimates of savings.

In order to perform evaluations, Columbia will download all residential customer and commercial customer data from its DIS system using a process similar to that used for WarmChoice® customer data. This will require full usage histories and other customer data for the pre treatment years of 2007 and 2008, with monthly updates to be downloaded starting in January of 2009 and appended to the 2007 and 2008 data, and continuing for subsequent months. (See Appendix B for Program Evaluation Schedules.)

In addition to consultant based evaluations, Columbia will provide quality assurance, technical assistance and training as part of its administration of the programs where applicable. As with its current WarmChoice[®] program, Columbia will target 5% of completed work for quality assurance assessments. Customer satisfaction surveys will be implemented as part of program implementation and evaluation processes. Training and orientation of contractors to enable them to succeed will be conducted on program standards and acceptable installation methods. This will be the primary up front strategy to ensure that quality work is performed for customers. Progressive and corrective improvement processes that contemplate non-compliant work will be established on a program by program basis.

VII. Placeholder for Future DSM Considerations

A. Expansion of DSM

The current filing contains programs that serve Small General Service Customers. It is likely that a number of General Service Customers above the SGS cut off of 300 Mcf/year have similar energy conservation opportunities, but lack the knowledge or resources to take action. Future DSM programs should consider opportunities to offer cost effective energy solutions to larger commercial and industrial customers. To the extent other customers benefit from DSM programs, an expansion of the cost recovery mechanism may be appropriate.

B. DSM Incentives

Columbia has not requested incentives to engage in DSM programs. However, Columbia believes that this approach has merit as it would encourage Columbia to embrace DSM to the maximum extent practical in future years. Columbia is committed to finding the right set of DSM programs that can reduce energy natural gas consumption in a cost-effective manner. However, implementing a set of aggressive DSM programs raises significant risk to Columbia. With most DSM programs, the primary beneficiaries are program participants and Columbia's other consumers. Participants in the programs save in the near and long term through lower bills. In

addition, improvements in energy efficiency reduce the demand for natural gas which can affect the level of natural gas prices.

Columbia and its shareholders are also impacted by DSM programs. Implementing DSM programs reduces both the near and long-term amount of natural gas sold. In the near-term, the reduction in Ccf sold reduces Columbia's recovery of the fixed costs of its distribution network. Columbia is proposing that a set of DSM programs be implemented that are expected to reduce natural gas usage by as much as 815,000 Mcf over the next three years. This is a substantial reduction in natural gas usage which will require a substantial investment by Columbia.

Columbia notes that many industry leading organizations have recognized the important role incentives play in creating long term success within DSM programs at the utility level. For example, the National Action Plan for Energy Efficiency recognizes that "simply eliminating financial penalties will not fundamentally change the utility business model, because that model is premised on the earnings produced by supply-side investment;" and that "providing financial incentives to a utility if it performs well in delivering energy efficiency potential can change the existing business model by making efficiency profitable, rather than merely a break-even activity."¹⁹ In addition, one proponent of energy efficiency, the ACEEE suggests that "enacting these regulatory mechanisms have generally been very positive, with utilities or other program providers governed by such mechanisms often demonstrating strong commitments to meet or exceed established goals for energy efficiency programs."²⁰ The Alliance to Save Energy ("ASE")²¹ recently embraced the American Gas Association ("AGA") and Natural Resources Defense Council ("NRDC") May 22, 2008 joint statement²² which "maintains support for

¹⁹ Environmental Protection Agency, *Aligning Utility Incentives with Investment in Energy Efficiency: A Resource of the National Action Plan for Energy Efficiency*, section 2.4, pages 2-7, 2-8, available at <http://www.epa.gov/cleanenergy/documents/incentives.pdf>.

²⁰ *Aligning Utility Interests with Energy Efficiency Objectives: A Review of Recent Efforts at Decoupling and Performance Incentives*, Report Number U061, October 2006.

²¹ The Alliance to Save Energy, *Alliance Endorses AGA, NRDC Joint Statement Supporting Utility Incentives to Promote Energy Efficiency*, May 22, 2008, available at <http://www.ase.org/content/news/detail/4712>.

²² American Gas Association, *Combating Global Warming with Increased Energy Efficiency Is a Win-Win Says AGA, NRDC*, May 22, 2008 available at <http://www.aga.org/Newsroom/news+releases/2008/CombatingGlobalWarming.htm>.

revenue decoupling, but goes one step further with advocacy for performance-based mechanisms which provide economic incentives for utilities to promote energy efficiency ... The concept of earnings opportunities linked to energy efficiency is at an early stage; however the end result should be a win-win solution for natural gas utilities and their customers.”

C. Partnerships with other Utilities and Funding Sources

Columbia remains flexible and committed to expanding partnerships with others, including electric and water utilities, governmental agencies, and other funding sources that can be leveraged to improve the cost-effectiveness and impacts of delivering demand-side management programs. To that end, Columbia will continue to work with stakeholders to pursue the possibility of establishing a joint DSM program with industry or governmental partners and is including a placeholder for any programs that may be developed in the near future.

D. Beyond 2011

This Application contemplates DSM programs for a three year period. Columbia recommends that a dialogue continue to determine the longer term viability, funding and effectiveness of DSM programs in its service territory.

VIII. Other DSM Considerations

A. DSM Program Funding Levels

Columbia will monitor and evaluate the level of success of all of its DSM programs. If, through program evaluation, it is determined that a particular program design is not likely to invest all of the resources available to it, Columbia requests the flexibility to shift funding between programs without Commission approval.

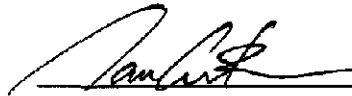
B. DSM Program Time Frames

The proposed time frame for DSM implementation is January 1, 2009 to December 31, 2011. If, for any reason, implementation is delayed and a calendar year implementation time frame cannot be adhered to, Columbia requests that a program year be established as an alternative to a calendar year with each program year beginning on the month and day of approval of the DSM filing, if it is after January 1, 2009.

Columbia hereby respectfully requests the Commission approve its Application for the implementation of Demand Side Management Programs to the extent described above.

Respectfully submitted,

COLUMBIA GAS OF OHIO, INC.



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Appendix A

- 1. DSM Program Cost-Effectiveness Test Results**
- 2. DSM Program Gas Savings Projections**
- 3. DSM Program Projected Budgets**
- 4. Columbia DSM Gas Cost Projections**

Appendix B: Program Evaluation Schedule

Appendix C

- 1. Computation of DSM Rate**
- 2. Computation of DSM Revenue**
- 3. Computation of DSM Income Statement**

APPENDIX A

1. DSM Program Cost Effectiveness Test Results

Estimated Cost-Effectiveness of Columbia DSMSG Adopted Programs

Program	Cost Effectiveness Test Results						
	TRC BCR	UCT BCR	PCT BCR	RIM (Years 1-3) \$/ccf	RIM (levelized) \$/ccf	TRC \$/ccf	Utility \$/ccf
Home Performance	1.48	1.36	*	0.0022	0.0003	\$0.85	\$0.95
Low Cost Rebates	1.85	1.52	*	0.0004	0.0001	\$0.64	\$0.79
New Homes	1.30	1.75	4.40	0.0017	0.0003	\$0.94	\$0.74
Low Income WarmChoice [®]	1.24	1.19	*			\$1.03	\$1.09
Small Business Energy Efficiency Incentives	1.05	1.69	2.29	0.0101	0.0032	\$1.13	\$1.32
Advanced Energy Design Partnership	-	-	-	-	-	-	N/A
Innovative Technology Program	TBD	TBD	TBD	TBD	TBD	TBD	N/A
Small Business Energy Saver Audit	-	-	-	-	-	-	N/A
Totals	1.27					\$0.98	\$1.02
Total including other costs (non-program, Furnace Research and Loan Fund)	1.22						

Note: Avoided Cost of Gas = \$1.117/Mcf

Note: * On average, no net incremental costs are projected. This can occur due to negative incremental participation costs for free-riders exceeding the positive incremental costs incurred by other participants.

2. DSM Program Gas Savings Projections

Estimated Gas Savings Impacts of Columbia DSMSG Adopted Programs

Program	Gas Savings: Cumulative Incremental Mcf/yr			
	2009	2010	2011	Total MCF
Home Performance	19,090	48,140	81,753	148,982
Low Cost Rebates	5,179	13,257	24,324	42,759
New Homes	10,821	45,183	82,029	138,033
Low Income WarmChoice®	56,875	113,750	170,625	341,250
Small Business Energy Efficiency Incentives	19,963	42,916	66,080	128,958
	-	-	-	-
Advanced Energy Design Partnership Innovative Technology Program	TBD	TBD	TBD	TBD
	-	-	-	-
Small Business Energy Saver Audit				
Totals	111,927	263,246	424,810	799,982

3. Columbia DSM Program Projected Budgets

Estimated Annual Budgets, Columbia DSMSG Adopted Programs

Program	2009	2010	2011	Totals
Home Performance	\$ 2,335,735	\$ 3,111,141	\$ 3,476,464	\$ 8,923,340
Furnace Market Intervention			\$ -	
Research	\$ 82,316	\$ -		\$ 82,316
Low Cost Rebates	\$ 422,188	\$ 481,589	\$ 528,142	\$ 1,431,919
New Construction (tax credit)	\$ 1,570,920	\$ 2,731,125	\$ 2,630,241	\$ 6,932,286
Subtotal: Residential DSM	\$ 4,411,159	\$ 6,323,854	\$ 6,634,848	\$ 17,369,861
Small Business Energy				
Efficiency Incentives	\$ 1,078,631	\$ 1,171,051	\$ 1,262,435	\$ 3,512,116
Advanced Energy Design				
Partnership	\$ 75,000	\$ 77,250	\$ 79,568	\$ 231,818
Innovative Technology				
Program	\$ 206,340	\$ 206,830	\$ 207,335	\$ 620,505
Small Business Energy Saver				
Audit Program	\$ 8,400	\$ 8,652	\$ 8,912	\$ 25,964
Subtotal: Commercial DSM	\$ 1,368,371	\$ 1,463,783	\$ 1,558,249	\$ 4,390,402
Collaborative Support/DSM				
Planning	\$ 122,000	\$ 40,000	\$ 40,000	\$ 202,000
Admin (non-program specific)	\$ 330,000	\$ 338,250	\$ 346,706	\$ 1,014,956
Total : selected programs	\$ 6,231,530	\$ 8,165,887	\$ 8,579,802	\$ 22,977,219
Energy Efficiency Loan Fund	\$ 1,000,000	\$ 72,860	\$ 73,340	\$ 1,146,000
Total Budget	\$ 7,231,530	\$ 8,238,547	\$ 8,653,142	\$ 24,123,219

4. Columbia DSM Gas Cost Projections

Columbia DSM Gas Cost Projections

Year Number	Year	Nominal Cost of Gas (\$/Mcf)
0	2008	\$ 9.88
1	2009	\$ 11.15
2	2010	\$ 11.13
3	2011	\$ 11.17
4	2012	\$ 11.17
5	2013	\$ 11.45
6	2014	\$ 11.74
7	2015	\$ 12.03
8	2016	\$ 12.33
9	2017	\$ 12.64
10	2018	\$ 12.96
11	2019	\$ 13.28
12	2020	\$ 13.61
13	2021	\$ 13.95
14	2022	\$ 14.30
15	2023	\$ 14.66
16	2024	\$ 15.02
17	2025	\$ 15.40
18	2026	\$ 15.79
19	2027	\$ 16.18
20	2028	\$ 16.58
21	2029	\$ 17.00
22	2030	\$ 17.42
23	2031	\$ 17.86
24	2032	\$ 18.31
25	2033	\$ 18.76

Notes: Inflation rate 2.5%.
GCR based on COLUMBIA
planning
through 2012, inflation thereafter.

APPENDIX B

Program	Evaluation Type	Earliest Timeframe for Program Year (PY) Report	Latest Timeframe for Program Year (PY) Report
Residential Home Performance	Impact, Energy Engineering Estimates	PY09 – April 1, 2010	PY09 – July 31, 2010
		PY10 – April 1, 2011	PY10 – July 31, 2011
		PY11 – April 1, 2012	PY11 – July 31, 2012
	Process	PY09 – April 1, 2010	PY10 – July 31, 2010
	Impact, PRISM-equivalent with control group	PY09 – April 1, 2011	PY09 – July 31, 2011
		PY10 – April 1, 2012	PY10 – July 31, 2012
		PY11 – April 1, 2013	PY11 – July 31, 2013
Residential New Construction	Impact, Energy Engineering Estimates	PY09 – April 1, 2010	PY09 – July 31, 2010
		PY10 – April 1, 2011	PY10 – July 31, 2011
		PY11 – April 1, 2012	PY11 – July 31, 2012
	Process	PY09 – April 1, 2010	PY10 – July 31, 2010
	Impact, PRISM-equivalent with comparison group	PY09 – April 1, 2011	PY09 – July 31, 2011
		PY10 – April 1, 2012	PY10 – July 31, 2012
		PY11 – April 1, 2013	PY11 – July 31, 2013
Residential Low Cost Rebates	Impact, Energy Engineering Estimates	PY09 – April 1, 2010	PY09 – July 31, 2010
		PY10 – April 1, 2011	PY10 – July 31, 2011
		PY11 – April 1, 2012	PY11 – July 31, 2012
	Process	PY19 – April 1, 2010	PY10 – July 31, 2010
	Impact, PRISM-equivalent with control group	PY09 – April 1, 2011	PY09 – July 31, 2011
		PY10 – April 1, 2012	PY10 – July 31, 2012
		PY11 – April 1, 2013	PY11 – July 31, 2013
Furnace Market Research	Research results report	April 1, 2010	June 30, 2010

WarmChoice® Low Income Weatherization Program	Impact, Energy Engineering Estimates	PY09 – April 1, 2010	PY09 – July 31, 2010
		PY10 – April 1, 2011	PY10 – July 31, 2011
		PY11 – April 1, 2012	PY11 – July 31, 2012
	Impact, PRISM-equivalent with control group	PY09 – April 1, 2011	PY09 – July 31, 2011
		PY10 – April 1, 2012	PY10 – July 31, 2012
		PY11 – April 1, 2013	PY11 – July 31, 2013
Small Business Energy Incentives Program	Impact, Energy Engineering Estimates	PY09 – April 1, 2010	PY09 – July 31, 2010
		PY10 – April 1, 2011	PY10 – July 31, 2011
		PY11 – April 1, 2012	PY11 – July 31, 2012
	Process	PY09 – April 1, 2010	PY10 – July 31, 2010
	Impact, PRISM-equivalent with control group	PY09 – April 1, 2011	PY09 – July 31, 2011
		PY10 – April 1, 2012	PY10 – July 31, 2012
		PY11 – April 1, 2013	PY11 – July 31, 2013
Small Business Energy Saver Audit Program	N/A		
Advanced Energy Design Partnership	N/A		
Innovative Technology	Impact, Energy Engineering Estimates, International Performance Measurement and Verification Protocols (IPMVP), Pre- and post-treatment gas usage comparisons	To be determined separately for each project.	To be determined separately for each project.

APPENDIX C

1. Computation of DSM Rate

Line No.	Description	Rate Effective May 1		
		2010	2011	2012
1	Deferred Program Costs	7,231,530	8,238,547	8,653,142
5	SGS/SGTS/FRSGTS Throughput	122,223,000	122,223,000	122,223,000
6	DSM Rate	0.0592	0.0674	0.0708

2. Computation of DSM Revenue

Line No.	Description	Throughput Mcf	2010-2011 \$	May 1 - April 30 2011-2012 \$	2012-2013 \$	Total
1	May	23,798,000	379,554	432,409	454,169	
2	June	22,489,000	193,712	220,687	231,793	
3	July	18,704,000	133,243	151,798	159,437	
4	August	13,002,000	128,569	146,473	153,844	
5	September	6,415,000	131,646	149,978	157,526	
6	October	3,274,000	178,861	203,768	214,022	
7	November	2,252,000	530,548	604,428	634,846	
8	December	2,173,000	940,573	1,071,551	1,125,476	
9	January	2,225,000	1,408,049	1,604,125	1,684,850	
10	February	3,023,000	1,330,600	1,515,890	1,592,176	
11	March	8,967,000	1,106,654	1,260,759	1,324,205	
12	April	15,897,000	769,285	876,411	920,515	
		122,219,000	7,231,293	8,238,277	8,652,859	24,122,430

3. Computation of DSM Income Statement

Line No.	Description	Calendar Year				Total
		2010	2011	2012	2013	
1	Revenue	2,616,706	7,595,679	8,388,297	5,521,747	24,122,430
2	Amortized DSM Expense	2,616,706	7,595,679	8,388,297	5,521,747	24,122,430
3	Operating Income	-	-	-	-	-