STATE OF ILLINOIS
ILLINOIS COMMERCE COMMISSION

North Shore Gas Company and	**)**	
	)	
The Peoples Gas Light and Coke Company	**)**	
	)	**Docket No. 10-0564**
Petition pursuant to Section 8-104 of the	**)**	
Public Utilities Act to Submit for Approval	**)**	
an Energy Efficiency Plan	**)**	

DIRECT TESTIMONY OF CHRISTOPHER C. THOMAS
ON BEHALF OF THE CITIZENS UTILITY BOARD AND THE CITY OF CHICAGO

CUB/CITY Exhibit 1.0

December 7, 2010

Table of Contents

INTRODUCTION

Q. Please state your name and business address.

A. My name is Christopher C. Thomas. My business address is 309 W. Washington, Suite 800, Chicago, IL 60606.

Q. What is your present occupation?

A. I am employed by the Citizens Utility Board ("CUB") as the Director of Policy. My duties include filing expert testimony before the Illinois Commerce Commission ("ICC" or the "Commission") on behalf of CUB as well as oversight of the testimony filed by external expert witnesses on CUB's behalf and management of the Policy Department. I am testifying on behalf of CUB and the City of Chicago ("City") in this case.

Q. Please summarize your professional experience.

A. My professional career includes more than ten years as a utility regulatory economist. I started my career as a regulatory economist in the Telecommunications Department of the Missouri Public Service Commission. I became a CUB employee in September 2004, and have filed testimony before the Illinois Commerce Commission ("ICC" or the "Commission") in numerous dockets. CUB Exhibit 1.1, attached to this testimony, contains a list of the dockets in which I have filed testimony and my resume.

Q. Please describe your educational background.

A. I have a Bachelor's degree in Business Administration with a concentration in Finance and a minor in Economics from Truman State University, and a Master's degree in Economics and Finance from Southern Illinois University, Edwardsville.

Q. What is the purpose of your testimony?

A. I am responding to the Energy Efficiency Plan ("the Plan") submitted by North Shore Gas Company ("North Shore") and The Peoples Gas Light and Coke Company ("Peoples Gas"), collectively "the Companies," for Commission approval pursuant to Section 8-104 of the Public Utilities Act ("PUA" or "the Act"), 220 ILCS 5/8-104. In particular, I address:

- Behavior Change Programs: I recommend the Companies' include in their proposed "Home Energy Reports" program coordination with Commonwealth Edison ("ComEd") and use a Request for Proposal process to solicit ideas on behavior change programs from third-parties. I also address the evaluation, measurement and verification ("EM&V") issues which arise in connection with behavior change programs like the Home Energy Reports program, and recommend the Commission examine innovative analytical tools, including statistical modeling using bill data analysis.
- Stakeholder Advisory Group (SAG): I recommend that the Commission order the Companies to participate in a SAG focused on natural gas energy efficiency issues, one which would coordinate with the existing electrical

energy efficiency SAG. This SAG should coordinate its work with groups like the Chicago Retrofit Steering Committee to investigate ways to integrate and leverage other energy efficiency efforts.

- On-Bill Financing: I support the Companies' proposal to integrate their respective On-Bill Financing Programs into their energy efficiency portfolio.
- Administrative and Marketing Costs: The Commission should monitor administrative and marketing costs and encourage the Companies to provide this information to stakeholders.

My testimony addresses each issue in turn.

Q. What documents have you reviewed in preparing your testimony?

A. I reviewed the Companies' Petitions, their Plan, testimony and supporting exhibits, and the discovery responses provided by the Companies in response to various parties in this proceeding.

Q. Please summarize the Companies filing.

A. The Companies' Plan is designed to meet the statutory savings goals in PUA Section 8-104(c):

(1) 0.2% by May 31, 2012;

(2) an additional 0.4% by May 31, 2013, increasing total savings to .6%;

(3) an additional 0.6% by May 31, 2014, increasing total savings to 1.2%.

The Plan includes separate programs for both Peoples Gas and North Shore, but both companies propose eight total programs, four targeted to residential customers and four targeted to commercial and industrial customers. There are subtle differences between programs based on the Companies unique service territories.[1] The Companies' savings goals and budgets are not combined and each utility plans to meet its portion of the requirements within its budget. Each company will track costs separately.[2]

Peoples Gas estimates its statutory savings goals at 1,822,895, 3,645,790, and 5,468,684 therms per Plan Years ("PY") 1, 2, and 3 respectively, and proposes Plan savings targets that are slightly higher than the statutory goals: 2,008,730, 3,765,524, and 5,469,566 therms per plan year, respectively (or savings of 0.22%, 0.41%, and 0.60% for PY 1, 2 and 3.[3] North Shore estimates its statutory savings goals at 397,886, 795,771, and 1,193,657 therms for PY 1, 2 and 3, respectively, and like Peoples Gas, proposes Plan savings targets that are slightly higher than the statutory goals: 439,855, 841,844, and 1,232,243 therms per Plan year (or savings of 0.22%, 0.42%, and 0.62% for PY 1, 2 and 3.[4]

The Companies initial, three-year Plan will spend $26.7 million – $22.5 million for Peoples Gas and $4.2 million for North Shore, excluding funding provided for the Illinois Department of Commerce and Economic Opportunity ("DCEO").[5] The Companies estimate the Plan's overall energy efficiency program cost at $1.94 per therm ($2 per

---

[1] NS-PGL Ex. 1.2 at 12-19.

[2] NS-PGL Ex. 1.2.

[3] NS-PGL Ex. 1.2 at 7.

[4] NS-PGL Ex. 1.2 at 6.

[5] NS-PGL Ex. 1.0 at 12.

therm for Peoples Gas and $1.66 for North Shore).[6] Rate impacts are projected to be 0.81% for Peoples Gas and 0.80% for North Shore Gas, well below the statutory cap.[7]

Q. Are the Companies proposing to spend all of the funds allowed by statute?

A. No. The Companies are not using all funds allowed under Section 8-104(d) of the PUA because they are able to meet statutory savings targets without using all funding available without reaching the 2% rate cap. Peoples Gas estimates its total funding available at $27,117,358. North Shore estimates its total funding available at $5,355,060.[8]

Q. Do the Companies have previous experience administering energy efficiency programs?

A. Yes. The Chicagoland Natural Gas Savings Program ("Chicagoland Program") is an energy efficiency program currently available to residential and small non-residential customers in Peoples Gas and North Shore service territories. The Commission approved cost recovery mechanisms (Rider EEP) for these programs in ICC Docket No. 07-0241 and No. 07-0242, which collects funds from the Companies' ratepayers to support these programs. Overall the programs are managed by a Governance Board which includes the two utilities, CUB, the City of Chicago, the Environmental Law and Policy Center ("ELPC") and the Illinois Attorney Generals' Office ("AG"), each with an equal vote. Commission Staff participates in these meetings as a non-voting member.

---

[6] NS-PGL Ex. 1.0 at 12.

[7] NS-PGL Ex. 2.0 at 10.

[8] NS-PGL Ex. 1.2 at 6.

Q. What kind of programs do the Companies currently operate?

A. The existing energy efficiency plans consist of prescriptive and custom programs available to residential and noncommercial customers of the two utilities. The Chicagoland Program will run until May 31st of 2011, the day before the proposed Plan programs go into effect. The Companies portfolio of programs in this filing will replace the Chicagoland Program.[9]

Q. What is the role of the Governance Board in developing these programs?

A. The role of the Governance Board is to "evaluate and select a Program Administrator, a Contract Administrator, and a Program Evaluator; oversee creation and issuance of RFPs; oversee, in consultation with the Contract Administrator, the general program goals, performance criteria and budgets; and . . . establish general goals, policies and procedures for the energy efficiency program in accordance with the 2007 Rate Order (Bylaws)."[10] "Program goals" are defined as "what types of programs should be offered to which customer segments and in what time frame."[11]

Q. Do you support the Companies programs as filed in their Plan?

A. In general, yes. CUB/City appreciates the Companies' proposal to achieve targets that are higher than that provided for by statute. However, I am concerned that not enough funding is spent on commercial and industrial programs. The Companies seem to be

---

[9] See <http://www.chicagolandrebates.com>

[10] *In re North Shore Gas Co./In re Peoples Gas Light & Coke Co.*, Dockets 07-0241/07-0242, February 5, 2008, (2007 Rate Order).

[11] *Id.*

moving their energy efficiency portfolio towards more residential programs and smaller developments because the payback is better and they can achieve more savings that way. The Companies propose to spend $6,854,298 on commercial and industrial programs in their plan, and $19,828,031 on residential programs.[12] Energy efficiency can be an important mechanism to stimulating job growth. Investing in commercial and industrial programs is beneficial to residential customers for this reason.

I. BEHAVIORAL ENERGY SAVINGS PROGRAM

Program Background

Q. Please describe the Companies proposal for a behavior change program.

A. The Companies propose a "Residential Home Energy Reports" program to provide homeowners in single family dwellings in the Companies' service areas with "feedback on their energy use, comparisons to similar homes in their neighborhood, and targeted tips to achieve energy savings."[13] The Companies intend the program to motivate customers to conserve energy in their homes.[14] The program will begin in Plan Year 2 for both utilities.[15]

The Peoples Gas Residential Home Energy Reports program has a TRC of 1.07.[16] In year 2, the program will reach 30,000 customers and is projected to save 76,280 therms

12 NS-PGL Ex. 1.2 at 9-10.

13 *Id.* at 51-54.

14 *Id.*

15 *Id.* at 51-52.

16 *Id.* at 54.

with a budget of $439,240. In year 3, the program will reach 60,000 customers and is projected to save 952,560 therms with a budget of $574,248.[17]

The North Shore Residential Home Energy Reports program has a TRC of 1.09.[18] In year 2, the program will reach 5,000 customers and is projected to save 79,380 therms with a budget of $77,513. In year 3, the program will reach 10,000 customers and is projected to save 158,760 therms with a budget of $101,338.[19]

Q. How is the Residential Home Energy Reports program designed to work?

A. The Program is described on Pages 51 through 54 of the Companies' Plan, NS-PGL Ex. 1.2. Essentially, the Companies will send an "energy efficiency report" by direct mail over a heating season to single family homeowners with high natural gas usage. It is proposed as an opt-out program only, that is, customers cannot elect to participate.

The reports themselves will be created by a software platform that integrates customer energy usage data with data on customer demographics, housing and GIS information to create specific, targeted recommendations for program participants. This report will be supported by a website "that benchmarks individual customer use compared to use by other homes in the surrounding neighborhood, and uses this energy profile to customize customer target offers, coupons, and rebates."[20] The reports will include the following information:

[17] NS-PGL Ex. 1.2 at 54.

[18] *Id.*

[19] *Id.*

[20] *Id.*at 51.

- Show the customers' gas use compared to the average of 100 neighborhoods in similar-sized homes and characteristics;
- Supply targeted natural gas efficiency recommendations based on analysis of the household's energy use, demographics, and housing characteristics, teaching residents how to save and become a more efficient neighbor; and
- Refer customers to specific programs offered by their utility that can help them become more energy efficient.[21]

Reports will include recommendations on how participants can cut their energy use, including small lifestyle changes, making home improvements and investments.

Q. What is the proposed implementation plan for this program?

A. The Companies state that a subcontractor will have general oversight over this program, and will "generate all reports and provide all direct mail services, train customer communication center personnel to field customer questions and manage program opt outs, and provide tracking of savings for participants."[22] This same service provider will also develop the website, conduct "quality assurance and QC (Quality Control) activities," and be responsible for "overall program performance."[23] In response to a data request, the Companies indicated that the subcontractor for this program would be chosen through an RFP process, though their Plan does not address vendor selection for this

[21] *Id.*

[22] NS-PGL Ex. 1.2 at 52.

[23] *Id.* at 53.

program.[24] I am assuming for the purposes of my testimony, that an RFP will be used to select the Home Energy Reports subcontractor.

Q. Do you support the Residential Home Energy Reports programs as proposed by the Companies?

A. Yes. I commend the Companies for realizing the value of an innovative program like behavior change. The program focuses on reducing energy consumption behaviors that result in reduced natural gas consumption. Programs like this are important tools to determine cost-effective strategies for future plans. However, the Companies fail to provide information on how the vendor selection process will work, including whether the Companies will select a provider that demonstrates they will cost-effectively and efficiently administer this type of behavior change program. I believe it is imperative that the Companies offer this program in the most cost-effective manner as possible, to maximize the benefit to ratepayers. The Companies failure to provide any information about the service provider selection process is unacceptable.

<u>Program Modifications</u>

Q. What modifications would you propose to the Companies Home Energy Reports program?

A. I believe the Companies can make modifications that will improve their behavior change programs to better serve program participants and Illinois ratepayers. The Companies state that they will utilize a "service provider" to implement the Home Energy Reports

[24] NS-PGL Response to CUB Data Request 2.07.

program. I think that the Companies should expand this type of behavior change program to incorporate third party administered plans, one good example of which is ComEd's proposed "Efficiency Innovation" program described in ICC Docket No. 10-0570.

Q. What suggestions would you make to improve the Companies' proposed implementation method?

A. The Companies should issue an open RFP to ensure that the most cost-effective behavior energy savings program is offered. The Company should include stakeholders in the RFP development process, since stakeholders can provide information on the experience of other utilities in selecting vendors for these types of programs. For example, ComEd is proposing a similar behavior change program as part of its Plan.[25]

Q. What types of programs do you think could be included in an expanded behavior change program?

A. I anticipate many potential programs will utilize behavioral approaches to generate electricity and gas savings in a cost-effective and scalable manner. I think this is appropriate to encourage new programs which can help educate customers about energy usage. I would encourage the Companies to use this opportunity to try a variety of behavioral approaches in order to maximize deep savings and persistent savings.

[25] See ICC Docket No. 10-0570.

Q. Please describe the ComEd program.

A. ComEd plans to "solicit innovative efficiency delivery proposals from third party administrators (TPAs) with a preference for options designed to strengthen the current portfolio's ability to reach challenging customer segments and the possibility of improving delivery efficiency or effectiveness."[26] This program involves ComEd seeking proposals from outside efficiency providers that would cost-effectively help the utility meet the savings targets. ComEd wants to target "hard-to-reach" markets for this program, including customers who are uncomfortable participating in a utility program.[27]

Q. Why do you think third party administered programs like ComEd's are important?

A. The Companies will most effectively meet the savings targets of Section 8-104 of the PUA by including innovative, cost-effective programs that educate customers about energy conservation, such as the Home Energy Reports program. However, the Home Energy Reports program alone is not sufficient for the market transformation and innovation that is needed in Illinois. A report from the Ameren Council for an Energy Efficiency Economy ("ACEEE") found:

> In [a] 2003 study (Lutzenhiser et al.), survey respondents reported that their conservation efforts were motivated by a wide variety of factors. While minimizing energy costs was among the principal motivators, respondents also reported being motivated by their desire to avoid blackouts (82%), use energy resources as wisely as possible (77%), do their part to help Californians (73%), and protect the environment (69%). According to the report, "qualifying for a utility rebate was the least common motivation, and

[26] ComEd Ex. 1.0 at 141, ICC Docket No. 10-0570.

[27] *Id.*

available utility rebates were not relevant to most of the actions consumers took.[28]

Q. What are the benefits of a third party administration program?

A. ComEd describes the potential benefits of a third party administration program in its Plan, including: the potential for more stakeholder involvement, introduction of new ideas – both technologies and delivery mechanisms, ability to deliver energy efficiency to the "hard-to-reach" markets (including customers who are uncomfortable participating in a utility program), and potentially less overhead/administration program costs.[29]

I think the Companies Home Energy Reports program, implemented by a "service provider", will provide an important resource for the Companies to draw on in fostering innovative programs, leveraging existing energy efficiency resources, and promoting cost-effective strategies which can ultimately help compensate for any existing measures that may have diminishing savings in future Plan years.

Q. How can new program development be useful in energy efficiency plans?

A. The solicitation of ideas from third party administrators can introduce benefits ranging from increased stakeholder involvement to the introduction of new ideas in both technologies and delivery mechanisms. CUB/City strongly believe that these benefits can be accelerated during the three-year program cycle by expanding the funding and

[28] Karen Ehrhardt-Martinez et al., Advanced Metering Initiatives and Residential Feedback Programs: A Meta-Review for Household Electricity-Saving Opportunities, American Council for Energy-Efficient Economy Research Report (June 25, 2010) at 71 (available at <http://www.aceee.org/research-report/e105>).

[29] ComEd Ex. 1.0 at 141, ICC Docket No. 10-0570.

accelerating the implementation timeline for behavior change programs. I am not convinced the Companies have proposed a plan that will increase their portfolio's cost effectiveness for future program cycles. It is incumbent upon the Companies to propose a plan that not only meets 2011-2013 statutory goals, but also establishes a foundation to meet goals in the next portfolio and beyond..

Q. Are there additional components that should be included in the Companies' Home Energy Reports program?

A. I'm concerned that the proposed program does not necessarily lead directly to increased consumer awareness of new energy efficiency opportunities. Therefore, I think any additional program that the Companies fund through this measure should consist of some combination of the following components:

- Education
- Outreach
- Incentives

Ideally, these programs will include all three components to demonstrate cost-effective program models. These program models can focus on specific measures, or be measure-neutral. Programs that focus on specific measures or measure categories should be considered technology-based programs. Programs that are measure-neutral should be considered behavior-based programs. I encourage the Companies to explore both measure-specific technology-based programs as well as behavior-based programs. Further, the Companies should focus on soliciting community-based energy efficiency programs in any RFPs. Different local organizations know how to effectively reach and incentivize their constituents, whether it be through specific measure installations or broader education and encouragement. In addition, local organizations have the ability to leverage resources to increase the effectiveness of the programs. Stringent evaluation, measurement and verification standards should be in place.

Q. How should these third-parties be compensated?

A. The Companies have indicated they support a performance based contract, stating that following the passing of Senate Bill 1918, the Companies issued an RFP for a "turnkey contractor to provide comprehensive planning and implementation services," requiring bidders to offer performance-based compensation for implementation.[30] I support a "pay-for-performance" process, where the risk is low to the utility because non-performance of a third party contractor would result in the Companies not paying that contractor. The program that I'm proposing, by definition includes new approaches to energy efficiency, and as such, risk should be shared by third-party administrators. I recommend that the Companies allocate 25%-50% of funds upfront depending on program administrator strategy and track record. Third party administrators should be compensated on a flat, dollar per therm saved basis. By setting a fixed payment tied directly to natural gas savings, the Companies will ensure an even playing field among TPAs based on their contribution to the Plan. A fixed payment could be adjusted in the future to allow the Companies to reduce reliance on any unsustainable measures while increasing innovation and impacting hard-to-reach segments of the Companies' territories.

[30] NS-PGL Ex. 1.0 at 24-25.

<u>Collaboration with Other Utilities</u>

Q. Do the Companies plan to work with other Illinois utilities to offer this program?

A. Yes. The Companies plan to cooperate with ComEd on their Residential Home Energy Reports program: "There are some measures that could benefit both the gas and electric energy use and joint offerings, where possible, will be made transparent to the customer. In addition, the utilities will collaborate in raising awareness of and educating customers on the benefits of energy efficiency."[31]

Q. Do you support the Companies plan to work with ComEd?

A. Yes. I commend the Companies for their willingness to work and cooperate with ComEd on their behavior change program. It will positively serve Illinois ratepayers to do so. However, I think the joint collaboration between the Companies and ComEd could be improved.

Q. What suggestions do you have for the Companies in working with ComEd?

A. The Companies should further define how they plan to cooperate with ComEd on providing this program to customers. The Companies emphasize their plan to "cooperate" with ComEd on their Home Energy Reports program.[32] The Companies state they "are exploring the possibility of cooperating with ComEd in the delivery" of the Home Energy Reports programs, but that "no details will be available until an RFP

[31] NS-PGL Ex. 1.2 at 51-52.

[32] *Id.* at 51-54.

has been written and vendor selection commences."[33] The Companies also state they have not discussed a joint RFP with ComEd, nor reviewed ComEd's RFP process. The Companies commit to consider a joint RFP, "along with all other options."[34]

CUB/City believes it would be in the best interest of Illinois ratepayers for the Companies and ComEd to offer a joint behavior change program, providing home energy reports on both gas and electric energy savings to customers. The Companies state their desire to search for vendors "that have the capability to combine gas and electric in their product offering."[35] Offering a joint Home Energy Reports program will allow the Companies to share costs with the Companies for this program, where appropriate, for both evaluation and vendor selection.

<u>Evaluation, Measurement & Verification ("EM&V")</u>

Q. Are there are any challenges in working with third party administrators on these types of behavioral change programs?

A. Yes, because it's important to make sure the Companies' customers see actual – and not estimated – savings. The funding of behavior change programs raises significant questions for some parties with regards to savings persistence – that is, how long any the behaviors actually last. CUB/City support counting savings only in the year generated, but also supports the broader goal that any behavioral program should be structured to generate persistent savings. This is another reason that the Companies should consider a

[33] NS-PGL Response to CUB Data Request 2.07.

[34] *Id.*

[35] NS-PGL Ex. 1.0 at 9.

variety of behavioral approaches to maximize the chance that behavioral approaches generate deep savings and persistence.

Q. How do the Companies propose to evaluate the Residential Home Energy Reports program?

A. The Companies plan to use a "scientific test and control method" to identify energy savings delivered by this program.[36] The Companies plan to conduct both an impact evaluation and process evaluation. The Plan impact evaluation will quantify savings while the process evaluation will "assess the effect of program structure and implementation on program performance and customer satisfaction."[37] The Companies will survey randomly selected program participants, and also plan to use transaction surveys "to measure customer satisfaction and identify potential program and process improvements. Follow-up questionnaires will also assess why some customers choose to opt out of the program. The service provider will utilize various methods to identify and mitigate threats to reliability of the program's results."[38]

Q. Do you support the Companies evaluation plan for this program?

A. I encourage the Companies to focus on using innovative analytical tools and technology to perform EM&V more effectively, including but not limited to statistical modeling

[36] NS-PGL Ex. 1.2 at 53.

[37] *Id.*

[38] NS-PGL Ex. 1.2 at 52.

using bill data analysis. That process should be transparent so that it can be potentially implemented by other utilities and organizations.

Q. How should these types of programs be evaluated?

A. The Companies should use an independent evaluator for impact and process evaluations similar to the proposal made by ComEd in its Plan. As ComEd explains, impact evaluations

> will verify measure implementation, customer participation, measure savings, measure realization rates, and Net-to-Gross ("NTG") ratios. We will provide tracking systems for program measures and customer participation that meet the evaluator's requirements. We will work collectively with the evaluator and other stakeholders to identify those estimates for measure savings that best represent *ex ante* program savings. Evaluators will determine program realization rates through appropriate sampling, including direct measurements and surveys. Results of these activities will determine Gross MWh and Gross MW impacts of each program. Additional surveying and analysis techniques will be used by the evaluators to determine free-ridership and spillover impacts, which define the NTG ratio. The Net MWh impacts are defined as the Gross MWh impact * NTG, and represent the energy savings directly associated with the individual program. Similarly, the NTG ratio determines the Net MW impact.[39]

Process evaluations should be conducted by evaluators to determine adequacy of the marketing approach, implementation channels, outreach activities, and customer satisfaction. This information can be used by program implementers to increase participation and volume of overall savings. There is an important linkage between program evaluation and incentives: because many third-party administrators will incur

[39] Com Ed Ex. 1.0 at 142-143, ICC Docket No. 10-0570.

large upfront delivery costs, it is imperative that program incentives be provided on a regular basis, instead of waiting for post program surveys and studies.

A typical energy efficiency program is evaluated through post-program surveys to determine NTG ratios, installation ratios, and other factors. Therefore any program incentive based on such an evaluation not would be granted until at least a year after program launch. A third-party program administrator providing customized incentives and targeted education for a hard-to-reach population, however, has marginal program costs related to outreach, incentives and administration. These types of programs therefore require an EM&V strategy that allows for regular true-ups. In prior electric efficiency dockets, ICC Staff discussed that NTG ratios and other deemed savings values are notoriously difficult to estimate correctly or consistently. Deemed values for NTG ratios and other key program assumptions are simply not appropriate for these types of programs.

Q. What would you recommend instead?

A. I recommend that the ICC mandate some enhanced rigor evaluations, which follow the guidelines defined by the California Energy Efficiency Evaluation Protocols (see below).

Table 1. Required Protocols for Gross Energy Evaluation

Rigor Level	Minimum Allowable Methods for Gross Energy Evaluation
Basic	1. Simple Engineering Model (SEM) with M&V equal to IPMVP Option A and meeting all requirements in the M&V Protocol for this method. Sampling according to the Sampling and Uncertainty Protocol. 2. Normalized Annual Consumption (NAC) using pre- and post-program participation consumption from utility bills from the appropriate meters related to the measures undertaken, normalized for weather, using identified weather data to normalize for heating and/or cooling as is appropriate to measures included. Twelve (12) months pre-retrofit and twelve (12) months post-retrofit consumption data is required. Sampling must be according to the Sampling and Uncertainty Protocol.
Enhanced	1. A fully specified regression analysis of consumption information from utility bills with inclusion/adjustment for changes and background variables over the time period of analysis that could potentially be correlated with the gross energy savings being measured. Twelve (12) months post-retrofit consumption data are required. Twelve (12) months pre-retrofit consumption data are required, unless program design does not allow pre-retrofit billing data, such as in new construction. In these cases, well-matched control groups and post-retrofit consumption analysis is allowable.[11] Sampling must be according to the Sampling and Uncertainty Protocol utilizing power analysis as an input to determining required sample size(s). 2. Building energy simulation models that are calibrated as described in IPMVP Option D requirements in the M&V Protocols. If appropriate, may alternatively use a process-engineering model (e.g., AirMaster+) with calibration as described in the M&V Protocols. Sampling according to the Sampling and Uncertainty Protocol. 3. Retrofit Isolation engineering models as described in IPMVP Option B requirements in the M&V Protocols. Sampling according to the Sampling and Uncertainty Protocol. 4. Experimental design established within the program implementation process, designed to obtain reliable net energy savings based upon differences between energy consumption between treatment and non-treatment groups from consumption data.[12] Sampling must be according to the Sampling and Uncertainty Protocol.

Table 3. Required Protocols for Participant Net Impact Evaluation

Rigor Level	Minimum Allowable Methods for Participant Net Impact Evaluation
Basic	1. Participant self-report.
Standard	1. Participant and non-participant analysis of utility consumption data that addresses the issue of self-selection. 2. Enhanced self-report method using other data sources relevant to the decision to install/adopt. These could include, for example, record/business policy and paper review, examination of other similar decisions, interviews with multiple actors at end-user, interviews with mid-stream and upstream market actors, Title 24 review of typically built buildings by builders and/or stocking practices. 3. Econometric or discrete choice[30] with participant and non-participant comparison addressing the issue of self-selection.
Enhanced	1. "Triangulation" using more than one of the methods in the Standard Rigor Level. This must include analysis and justification for the method for deriving the triangulation estimate from the estimates obtained.

In particular I recommend that TPAs employ what the California Manual refers to as "Experimental Design", which provides a transparent framework and minimizes evaluation costs at scale. Experimental Design analyzes the electricity usage of program participants compared to a control group to determine actual electricity savings based on meter data that normalizes for all relevant exogenous factors affecting electricity usage. Because the evaluation mechanism is custom fit to the individual program, Experimental Design, recognized as a superior form of EM&V, significantly increasing the accuracy of electricity savings, providing the added advantage of tracking savings on a regular basis for purposes of truing-up incentives.

Q. How should Experimental Design be applied?

A. Experimental Design can be applied to almost any program design, but requires that the following conditions are met:

- Trackable program participation

- Standard statistical parameters for measuring savings applied to the "difference of differences" equation which is then used to calculate net program savings.
- Robust control group parameters.
- No double-counting of savings claimed by other programs, such as traditional deemed savings programs.[40]

In order to appropriately apply Experimental Design, participant sample size parameters should be standardized. This can be done simply through a centralized program tracking database that allows an independent evaluator to net out savings claimed by traditional programs.

An independent evaluator assigned by the ICC, in concert with the SAG, can develop Experimental Design guidelines and ensure transparent and consistent methods for determining savings. The independent evaluator, working with Nicor, can maintain a master database of participation, billing, and control group data in order to ensure savings are verified in an independent and timely manner. The costs involved with exporting the appropriate data to the independent evaluator must be controlled by Nicor so that the total EMV costs do not exceed the 3% EM&V threshold as set forth in Section 8-104 of the Act.[41]

[40] This step is only necessary when total deemed savings claimed by traditional programs is larger in the participant group than the control group.

[41] 220 ILCS 5/8-104(f)(8).

II. STAKEHOLDER ADVISORY GROUP

Q. What is the Stakeholder Advisory Group ("SAG")?

A. The Commission created the SAG in its final order approving the first statutory energy efficiency plans of ComEd and the Ameren Illinois Utilities ("Ameren") in ICC Dockets No. 07-0539 and 07-0540:

> All parties involved, with the possible exception of Staff, maintain that a Stakeholder Advisory Committee is essential to the success of the Plan. This Commission agrees with ComEd that it should establish a stakeholder process to review ComEd's progress towards achieving the required energy efficiency and demand response goals and to continue strengthening the portfolio. The Stakeholder group's responsibilities include, but are not limited to: reviewing final program designs; establishing agreed-upon performance metrics for measuring portfolio and program performance; reviewing Plan progress against metrics and against statutory goals; reviewing program additions or discontinuations; reviewing new proposed programs for the next program cycle; and reviewing program budget shifts between programs where the change is more than 20%."[42]

The SAG has proven itself to be excellent place for utilities and stakeholders to engage on issues relating to energy efficiency programs. CUB has participated in meetings, along with other stakeholders who are interveners in this proceeding, including the AG, the Natural Resources Defense Council ("NRDC"), and ELPC. Meetings take place approximately once a month. Commission Staff generally participates in these meetings by phone.

[42] Final Order on Rehearing, ICC Dockets No. 07-0539 and 07-0540, at 3 (March 26, 2008).

Q. Do the Companies support the creation of a SAG for natural gas energy efficiency programs under Section 8-104 of the PUA?

A. Yes. While the Companies do not address the SAG concept in testimony, their Plan recognizes the importance of involving stakeholders in developing their energy efficiency portfolios:

> "Throughout Plan development, the Utilities engaged stakeholders to obtain input on issues that were important to each stakeholder. Meetings were held with Commission Staff, the Illinois Attorney General's Office, the Citizens Utility Board, The City of Chicago and the Environmental Law and Policy Center. All stakeholder input was considered in the preparation of this Plan. Stakeholder input that did not deviate from the Utilities' overarching objectives was incorporated into the Plan. Going forward, the Utilities and stakeholders discussed forming a Stakeholders Advisory Group similar to the group that currently exists for the Illinois electric utilities. The Utilities are not opposed to the concept."[43]

The Companies communicated with stakeholders in several key Plan areas:

- The application of net-to-gross ("NTG") assumptions at the measure level.
- Deemed savings.
- Statewide impact evaluation.
- Programs directed at providing education in schools.
- Coordinating with energy efficiency programs offered by other organizations.
- Offering effective programs that would target lower income customers.
- Leveraging the accomplishments and infrastructure of the Companies' current Chicagoland programs.[44]

[43] NS-PGL Ex. 1.0 at 8.

[44] *Id.*

In that Plan, the Companies state they "could" support a natural gas SAG, "and would fully participate in the group but urge potential participants to carefully define the group's scope."[45]

Q. Of the other utility energy efficiency plans you have reviewed, do other utilities mention involvement in a SAG?

A. Yes. Ameren and ComEd have both expressed support for the SAG process. Ameren states it will continue the current SAG model for its integrated electric and gas energy efficiency portfolio, and is very supportive of the process. Ameren anticipates a separate natural gas SAG, with the two stakeholder groups collaborating when appropriate.[46] ComEd has also embraced the SAG process, describing the SAG as "an excellent opportunity and forum for a variety of stakeholders to work together to ensure energy efficiency is maximized in Illinois."[47]

The Northern Illinois Gas Company ("Nicor Gas") collaborated with the SAG on its energy efficiency Plan. In ICC Docket No. 10-0562, Nicor Gas states that it "gained valuable insights" by participating in the electric SAG, and plans to continue collaborating with stakeholders throughout its three-year Plan, as well as "with the other Illinois utilities, municipalities, and DCEO."[48]

---

[45] NS-PGL Ex. 1.2 at 22.

[46] AIU Ex. 1. 1 at 60, ICC Docket No. 10-0568.

[47] ComEd Ex. 2.0 at 60, ICC Docket No. 10-0570.

[48] Nicor Ex. 1.1 at 17.

Q. Do the Companies have an opinion regarding membership in the SAG?

A. Yes. In their Plan, the Companies "urge potential participants to carefully define the group's scope."[49] In the response to CUB Data Request 2.05, the Companies elaborate on how they define the scope of the SAG, stating "ICC Staff and parties that are active in this docket are likely candidates for participation in the SAG. By 'active participants,' NSG/PGL means members who regularly participate in and have a role in meetings. This would not preclude others from attending or participating in some way."[50] The Companies also specify that members of the SAG should only have an "advisory" role.

Furthermore, the Companies state that during stakeholder meetings they "were made aware of the desire for statewide evaluation," as a means to develop "consistent evaluation techniques for similar programs among all the gas utilities."[51] The Companies state that a statewide evaluation would pose "logistical issues," among the utilities, including "data integration, differences in program designs and timing of program delivery, and the differences in the size of evaluation budgets and the ability of one evaluator to allocate each utility's budget to only their programs."[52] As an alternative to these concerns, the Companies propose a voluntary "gas evaluation working group," whose mission would be to "formulate common evaluation methodologies for each basic program type that all the utilities would use."[53]

---

[49] NS-PGL Ex. 1.2 at 22.

[50] NSG/PGL Response to CUB Data Request 2.05

[51] NS-PGL Ex. 1.2 at 23.

[52] *Id.*

[53] NSG/PGL Response to CUB Data Request 2.03

Q. What is your opinion of the gas evaluation group as proposed by the Companies?

A. I agree with the Companies that developing consistent evaluation techniques for similar programs among gas utilities is a priority. However, I do not believe that a forum separate from the SAG is necessary to discuss evaluation methodologies. In ICC Dockets No. 07-0539 and 07-0540, the Commission specified that the "Stakeholder group's responsibilities include, but are not limited to…establishing agreed-upon performance metrics for measuring portfolio and program performance" and "reviewing Plan progress against metrics and against statutory goals."[54] If the Commission delineates similar responsibilities in an order for a natural gas SAG, stakeholders with existing knowledge of the utility programs, performance metrics, and statutory goals could more effectively agree upon evaluation methodologies than an additional, voluntary working group.

Q. What do you recommend the Commission do regarding the SAG in this case?

A. While I understand the Companies' concerns that active SAG participants be limited to a "manageable number" and limited to an advisory role, I think the best model is still the SAG which is connected to the electric energy efficiency programs and which has become an open and informal body. The Commission should order the Companies to participate in a natural gas SAG which includes both Nicor Gas and Ameren as well as other stakeholders such as CUB, the City of Chicago, ELPC, NRDC, the Illinois Attorney General's Office and ICC Staff. I also think that since there are joint program delivery mechanisms between electric and gas utilities, there should be a joint stakeholder mechanism as well. Ideally, the natural gas SAG would coordinate with the electric SAG

[54] Final Order on Rehearing, ICC Dockets No. 07-0539 and 07-0540, at 3 (March 26, 2008).

already in existence when necessary. For example, the natural gas SAG could meet in the morning and the electric SAG in the afternoon, or vice versa. This would allow electric and natural gas utilities to facilitate collaboration when appropriate and necessary. Holding both an electric and natural gas SAG on the same day would be efficient for all participants and would allow them to use their time and resources efficiently.

Q. Should the natural gas SAG you discuss have any specific responsibilities?

A. Yes, it should be directed to coordinate its efforts with that of existing energy efficiency workgroups such as the Chicago Retrofit Steering Committee (the "Committee"). The City and the Northern Illinois Energy Project are both involved in this Committee, which plays an important role in energy efficiency. CUB/City would like to ensure leadership commitment in the Committee and look for ways to collaborate with other utilities and program providers to maximize the benefit of the Committee.

Q. What is the purpose of the Retrofit Steering Committee?

A. The Retrofit Steering Committee is a group of stakeholders, including electric and gas utilities, created by the City of Chicago as part of its Chicago Climate Action Plan.[55] Members of the Committee include stakeholders such as the City, the Northern Illinois Energy Project, the Chicago Metropolitan Agency for Planning, the Community and Economic Development Association of Cook County, and utilities such as ComEd, North Shore and Peoples Gas. The Committee works collaboratively to address the need for

[55] See <http://www.chicagoclimateaction.org>

energy efficiency retrofits in the City. This collaboration provides an opportunity for energy efficiency experts and senior leaders of utilities and participating stakeholders to come together to identify areas where the energy efficiency program providers can collaborate on implementing programs. The objective of this process is to increase the efficiency and impact of energy efficiency programs.

III. ADMINISTRATION AND MARKETING COSTS

Q. Should the Commission review the level of administrative cost spending within utility energy efficiency plans?

A. It is important that utility administrative costs are monitored, so that more ratepayer money is spent on actual incentives. Any dollar spent on administrative costs is one less dollar that can be spent on energy efficiency and returned to customers through incentive programs.

I am not aware that there is a single definition of "administrative costs" used by any of the four utilities filing for approval under Sections 8-103 or 8-104 of the PUA. Part of the challenge for the Commission in this case will be to define that term. CUB/City believes that utility administrative costs should generally be around 5% of the total portfolio.

Q. Do the Companies define "administrative costs"?

A. Yes. In a Data Request Response to the AG, the Companies define administrative costs as:

> [A]ny activity that does not directly touch the end use customer or trade allies needed to drive results for the program. In addition to administrative costs, the current administration budget includes time and applicable direct costs (*e.g.*, mileage) for a Franklin Energy Services, LLC senior level portfolio manager who will be responsible for overseeing the operations of the entire NSG/PGL portfolio of programs but could also become involved in the management of specific programs, such as the Multifamily Direct Install program.[56]

The Companies further explain that administrative costs are costs "that may be incurred by a Program Administrator, Contractor or Subcontractor that is not easily chargeable to a specific program, but benefits all functions of the Program Administrator, Contractor or Subcontractor. Administrative costs should be charged to different programs and/or functions using a consistent pre-defined basis," and the Companies provide specific examples of such functions:

- Managerial and Clerical Labor,
- Human Resources Support and Development,
- Travel and Conference Fees,
- Overhead (General and Administrative),
- Equipment (e.g., communications, computing, copying, general office, transportation, etc.),
- Food Service,
- Office Supplies and Postage, and
- Labor (e.g., accounting, facilities management, procurement, administrative, communications, information technology, telecommunications, etc.).[57]

[56] NSG-PGL Response to AG Data Request 2.17.

[57] NSG-PGL Response to AG Data Request 2.17.

Q. Do you support the Companies definition of "administrative costs"?

A. Yes. CUB/City commends the Companies for providing a detailed explanation of its administrative costs for their Plan.

Q. Do you have other recommendations about the Companies administrative cost spending?

A. Yes. The Companies administrative costs make up 4% of their total Plan.[58] As stated above, CUB/City believe it is reasonable for a utility's administrative budget to be around 5% of its total portfolio, therefore I support the administrative costs that the Companies have proposed in their Plan.

Q. Are there other costs the Commission should be concerned about?

A. Yes. Marketing costs should be monitored by the Commission. I do not deny that the Companies may need to market their programs to encourage customer participants, and meet the statutory savings targets required by Section 8-104 of the PUA. However, marketing costs should be on the Commission's radar and carefully monitored because utilities may have an incentive to market their energy efficiency programs more heavily than needed due to the goodwill that energy efficiency programs engender to the utility brand.

[58] *Id.*

Q. Why should the Commission take an interest in marketing costs?

A. Allowing utilities to spend unlimited funding on marketing costs and failing to monitor where those costs are going may be harmful to ratepayers who are funding energy efficiency programs. The Companies should leverage innovative cost-effective communications strategies, not just publicize their own brand to customers. For example, there is a stark contrast between public service announcements about a specific incentive program for customers versus a glossy image of a utility energy efficiency logo that does not promote specific customer incentives.

I am concerned about the Companies using its marketing funds only to engender goodwill for promoting energy efficiency. The Companies need to market their energy efficiency programs in a cost-effective, specific manner so that savings can be achieved.

Q. Do the Companies specifically break out "marketing costs" for their programs?

A. While the Companies do not define "marketing costs" explicitly in their Plan they do provide detailed information about their planned marketing efforts: "During program launch, initial efforts will focus on a wide broadcast of energy efficiency programs. Franklin Energy will use the above channels to educate customers and trade allies on energy efficiency technologies and opportunities to conserve energy. Marketing effectiveness will be closely monitored so that marketing strategies and tactics can be altered based on program performance and marketplace opportunities."[59]

[59] NS-PGL Ex. 1.2 at 31-32.

Additionally, the Companies thoroughly explain their marketing plan for both their residential and commercial and industrial programs. For example, for the Residential Prescriptive Rebate Program, the Companies will utilize a bill insert campaign, implement trade ally strategies to build customer awareness of the program, and launch a website.[60]

CUB/City commend the Companies for providing detailed information on their marketing plans. It is to the benefit of ratepayers for the Companies to provide information about marketing to the Commission and stakeholders. The Companies should continue to update stakeholders and the Commission, when necessary and appropriate, on their marketing plans.

Q. How should marketing costs be treated?

A. Marketing costs should be kept very low, and utilities should be encouraged to seek out the lowest cost, highest impact communications strategies available. I do not advocate that the Commission put an arbitrary limit on marketing costs. It is reasonable for the Commission to require the Companies to continue to provide this information. I recommend that the Commission order the Companies to report annually on marketing costs for each residential and business program in its Plan. This report should be made available to the SAG for review. An annual report will give the Commission and the SAG an opportunity to review marketing costs and allow SAG to be more effective as an advisory group.

[60] NS-PGL Ex. 1.2 at 46.

Q. Do you have any examples in mind of how the Companies can address the marketing of their energy efficiency programs?

A. Yes, because the Companies themselves have provided a good model for the Commission to examine. Both Companies should continue marketing their programs as they do now with the Chicagoland Programs. It is my understanding that Peoples Gas currently uses a contractor network to market those programs as a result of a directive of its energy efficiency Governance Board. Peoples Gas is still able to incent large amounts of efficiency with a "bare-bones" marketing budget in this manner, and with the Companies proposing to spend 4% of their total portfolio on marketing costs it appears they are already anticipating following this path.[61]

In addition, utilities should be looking to leverage innovative communication strategies, such as the City's Energy Action Network to communicate with customers. Using such strategies can increase the cost-effectiveness of utility programs by providing alternative credible message delivery channels. Accordingly, in order to establish the right incentives for utilities, the Commission should order the Companies to clearly account for all marketing costs associated with the EEPS and identify the costs paid by shareholders and ratepayers in an annual EEPS marketing report. This is increasingly important as the Companies seek to meet their increasing goals with a constrained budget over time.

[61] NSG-PGL Response to AG Data Request 2.17.

IV. ON-BILL FINANCING

Q. What is on-bill financing?

A. The On-Bill Financing program ("OBF") is a mechanism that allows utility customers to purchase energy efficiency measures and finance them on their utility bill.[62] The intent is to provide customers with loans to purchase energy efficiency improvements without any up-front costs and establish an easy mechanism to pay for energy efficiency investments: the customer pays back the loan on the utility bill. In this way, avoided energy savings are used to pay back the cost of the financing. The basic idea of the OBF program is that a customer should save more than the total of their payments over the life of the measure eligible for the program.

Q. Do the Companies have an On-Bill Financing program?

A. Yes, all electric and gas utilities in Illinois are required by statute to provide an OBF program. The Companies, along with the state's other utilities, participated in a workshop process at the ICC prior to filing their OBF plans for Commission approval. North Shore's and Peoples' OBF plan was approved by the ICC in Docket No. 10-0090 on June 2, 2010.[63]

---

[62] 220 ILCS 5/16-111.7.

[63] See *In re North Shore Gas Co./In re Peoples Gas Light & Coke Co.*, ICC Final Order, Docket No. 10-0090, June 2, 2010 (OBF Order).

Q. Does the Companies Plan in this docket address its OBF program?

A. Yes. The Companies state they will implement an OBF program alongside energy efficiency programs established in Senate Bill 1918.[64] The Companies Plan states:

> In addition to the mandated savings targets, this legislation called for the creation of an On-Bill Financing program for energy efficiency upgrades by utility customers. The bill requires both large electric and natural gas utilities to offer a program that will make it easier for consumers to invest in measures to save energy such as high efficiency furnaces. The On-Bill Financing program will allow customers to pay on their utility bill for the cost of energy efficiency measures purchased through a loan with a financial institution participating in the program.[65]

Q. Do the Companies plan to implement the OBF program into their three-year energy efficiency Plan?

A. Yes. The Companies reference the OBF program within the Residential Prescriptive Rebate Program. The Companies plan to use trade ally surveys for quality control purposes, stating "this will also provide feedback on the facility with which they can refer customers to on-bill financing."[66] Additionally, the Companies state that 92% AFUE high efficiency furnaces are expected to be eligible for the OBF program, "therefore trade allies (*e.g.*, retail HVAC contractors) that are promoting this measure to their customers will have the option of referring their customers to the OBF option."[67]

---

[64] NS-PGL Ex. 1.2 at 5.

[65] *Id.* at 4.

[66] NS-PGL Ex. 1.2 at 46.

[67] NSG-PGL Response to CUB Data Request 2.04.

Q. Do the Companies plan to count energy savings from their OBF program toward savings targets as required by Section 8-104 of the PUA?

A. Yes. The Companies "plan to count energy savings associated with measures identified in the energy efficiency programs that are the subject of this proceeding. If an eligible measure under NSG/PGL's OBF program is such a measure, then savings would be counted towards the Section 8-104 savings targets."[68]

Q. How would you suggest that the Companies incorporate OBF into their energy efficiency programs?

A. I support this and encourage the Companies to find even more ways to ensure that customers are aware of the opportunities available to them through the OBF program. I also encourage the Companies to keep stakeholders updated on the progress of the OBF program as it is finalized and implemented. The OBF program is a good topic for future natural gas SAG meetings.

Q. Should the cost of incorporating OBF be an EEPS cost that is subject to the spending screen?

A. No. Any costs associated with the Companies OBF program should be considered a cost to that program only, and should not be calculated in the spending screen. Edward M. Korenchan testifies for the Companies that "Pro Forma Rider EOA is the proposed

[68] *Id.*

addition to the Utilities' tariffs that provides for recovery of eligible costs for the energy efficiency and on-bill financing programs through monthly per-customer charges."[69]

Q. Does this conclude your direct testimony?

A. Yes.

[69] NS-PGL Ex. 2.0 at 4, citing NS-PGL Ex. 2.1