IOWA UTILITIES BOARD
Policy Development Section

Docket No.:	EEP-2012-0001
	EEP-2012-0002
	EEP-2013-0001
Utility:	Interstate Power and Light
	MidAmerican Energy
	Black Hills Energy
File Date:	November 25, 2015
Memo Date:	February 25, 2016

TO: The Board

FROM: Brenda Biddle

SUBJECT: Recommendation for Net-to-Gross

I. Background

The Board issued orders[1] approving the most recent energy efficiency plans for Interstate Power & Light Company (IPL), MidAmerican Energy Company (MidAmerican), and Black Hills/Iowa Gas Utility Company, LLC, d/b/a Black Hills Energy (Black Hills).[2] In those orders the Board approved the settlement of the net-to-gross (NTG) issue which dealt with the implications of, and considerations to be given to, implementing NTG ratios other than 1.0[3] for specific programs.

The Settlement Agreements provided for a collaborative review of NTG by the investor-owned utilities (IOUs) and interested stakeholders. The collaboration formed an Oversight Committee that included the IOUs, the Office of Consumer Advocate (OCA), a division of the Iowa Department of Justice, and the Environmental Intervenors which included the Iowa Environmental Council (IEC) and the Environmental Law and Policy Center (ELPC). The Oversight Committee drafted a Request for Proposal (RFP) that outlined the desired outcomes of the NTG study. The Iowa Utility Association (IUA) issued the RFP which generated seven proposals. Ultimately, the Oversight Committee awarded the contract to Navigant Consulting, Inc. and Apex Analytics (Navigant team).

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[1] The orders were dated December 2, 16, and 17, 2013.
[2] The corresponding docket numbers are: EEP-2012-0001, EEP-2012-0002, and EEP-2013-0001.
[3] A NTG ratio of 1.0 generally implies that the effects of free ridership and spillover cancel each other out. Free ridership reduces gross savings by accounting for savings that likely would have occurred without energy efficiency programs. Spillover increases gross savings by accounting for savings that occur outside the energy efficiency program but were likely induced by energy efficiency program.

The Navigant team began work on the NTG study in December 2014 and provided an initial draft to the Oversight Committee in July 2015. The final report, Iowa Energy Efficiency Net-to-Gross Report (Final NTG Report), was filed on November 25, 2015. On December 21, 2015, the Board issued an order requesting comments on the Final NTG Report and asking the parties indicate whether they agree or disagree with the various recommendations; whether implementing some or all of these recommendations would require the utilities to modify existing Evaluation, Measurement, and Verification (EM&V) plans or energy efficiency budgets; and to note any obstacles for implementing the recommendations. Comments were filed individually by MidAmerican and the OCA. Additionally, IPL and Black Hills filed joint comments (IPL/Black Hills). ELPC and IEC (collectively Environmental Intervenors) also filed joint comments.

II. Legal Standards

199 Iowa Administrative Code (IAC) 35.8(2)

35.8(2) *Proposed energy efficiency plan, programs, and budget and cost allocation.* The utility shall file with the board an energy efficiency plan listing all proposed new, modified, and existing energy efficiency programs. The following information shall be provided:

a. The analyses and results of cost-effectiveness tests for the plan as a whole and for each program. Low-income and tree-planting programs shall not be tested for cost-effectiveness, unless the utility wishes to present the results of cost-effectiveness tests for informational purposes. The utility shall analyze proposed programs and the plan as a whole for cost-effectiveness, using the societal, utility, ratepayer impact and participant tests. If the utility uses a test other than the societal test as the criterion for determining the cost-effectiveness of utility implementation of energy efficiency measures, the utility shall describe and justify its use of the alternative test or combination of tests and compare the resulting impacts with the impacts resulting from the societal test. The utility shall describe and justify the level or levels of cost-effectiveness, if greater or less than a benefit/cost ratio of 1.0, to be used as a threshold for determining cost-effectiveness of programs. The utility's threshold of cost-effectiveness for its plan as a whole shall be a benefit/cost ratio of 1.0 or greater.

The utility shall provide an explanation of its sensitivity analysis identifying key variables showing the impact on cost-effectiveness. If appropriate and calculable, the utility shall adjust the energy and demand savings for the interactive effects of various measures contained within each program and shall adjust energy and demand savings of the plan as a whole for the interactive effects of programs. For the plan as a whole and for each program, the utility shall provide:

(1) Cost escalation rates for each cost component of the benefit/cost test that reflect changes over the lives of the options in the potential program and

benefit escalation rates for benefit components that reflect changes over the lives of the options;

(2) Societal, utility cost, ratepayer impact measure, and participant test benefit/cost ratios; and

(3) Net societal benefits.

b. Descriptions of each program. If a proposed program is identical to an existing program, the utility may reference the program description currently in effect. A description of each proposed program shall include:

(1) The name of each program;

(2) The customers each program targets;

(3) The energy efficiency measures promoted by each program;

(4) The proposed utility promotional techniques, including the rebates or incentives offered through each program; and

(5) The proposed rates of program participation or implementation of measures, including both eligible and estimated actual participants.

c. The estimated annual energy and demand savings for the plan and each program for each year the measures promoted by the plan and program will produce benefits. **The utility shall estimate gross and net capacity and energy savings, accounting for free riders, take-back effects, and measure degradation**. (Emphasis added.)

d. The budget for the plan and for each program for each year of implementation or for each of the next five years of implementation, whichever is less, itemized by proposed costs. The budget shall be consistent with the accounting plan required pursuant to subrule 35.12(1). The budget may include the amount of the remittance to the Iowa energy center and the center for global and regional environmental research and the alternative energy revolving loan fund. The plan and program budgets shall be categorized into:

(1) Planning and design costs;

(2) Administrative costs;

(3) Advertising and promotional costs;

(4) Customer incentive costs;

(5) Equipment costs;

(6) Installation costs;

(7) Monitoring and evaluation costs; and

(8) Miscellaneous costs.

Cost categories shall be further described by the following subcategories:

Classifications of persons to be working on energy efficiency programs, full-time equivalents, dollar amounts of labor costs, and purpose of work;

Type and use of equipment and other assets, including types of assets required and use of asset; and the name of outside firm(s) employed and a description of service(s) to be provided.

e. The rate impacts and average bill impacts, by customer class, resulting from the plan and each program.

f. A monitoring and evaluation plan. The utility shall describe in complete detail how it proposes to monitor and evaluate the implementation of its proposed

programs and plan and shall show how it will accumulate and validate the information needed to measure the plan's performance against the standards. The utility shall propose a format for monitoring reports and describe how annual results will be reported to the board on a detailed, accurate and timely basis.

III. Analysis

According to 199 IAC 35.8(2)(c), the utilities must "estimate gross and net capacity and energy savings, accounting for free riders, take-back effects, and measure degradation." Staff notes that the utilities have met this requirement by relying on a NTG ratio of 1.0 for previously filed energy efficiency plans. This NTG ratio was based on research conducted as part of the utilities' joint Assessment of Potential.[4]

The Navigant team's Final NTG Report provided background information on Iowa's NTG approach, described various NTG approaches and best practices, and recommended NTG approaches for Iowa IOUs' energy efficiency programs. The report also recommended that energy efficiency programs be divided into three categories for purposes of NTG research. The Oversight Committee agreed with this approach. The categories included:

- Programs that continue with a deemed NTG value of 1.0 due to low benefits and net savings, and where previous research suggests that the NTG value would be close to 1.0;

- Programs for which secondary research[5] will be conducted to establish deemed values other than 1.0 because previous research indicates that 1.0 is not likely to be an accurate NTG value, but the expense of primary research is not justified; and

- Programs that contribute large savings to the utilities' energy efficiency portfolio and warrant the expense of primary NTG research.[6]

The Final NTG Report classified the IOUs' energy efficiency programs based on these categories and provided cost estimates for applicable NTG methodologies

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[4] "Primary research was done for the, "*Assessment of Energy and Capacity Savings Potential in Iowa Volume 2: Free Riders and Spillover – A Look Back, A Path Forward",* Global Energy Partners and Quantec, July 25, 2002. Additional research was conducted for, "*The Assessment of Energy and Capacity Savings Potential in Iowa*," Quantec, February 2008 and "*The Assessment of Energy and Capacity Savings Potential in Iowa*," The Cadmus Group, Inc., February 28, 2012.

[5] Secondary research is based on studies conducted and completed outside Iowa.

[6] Primary research may consist of participant and trade ally surveys, structured expert judgement and historical tracing approaches, randomized controlled trials and billing analysis.

for each of the utilities' programs. The Final NTG Report outlined eight recommendations for Iowa stakeholders to consider. The recommendations are:

1. Continue with a deemed NTG value of 1.0 for programs with low net benefits and savings, and where research has found programs are likely to have a NTG value close to 1.0.

2. Continue to apply state-of-the-industry net savings research methods to demand management programs such as demand response and direct load management programs, and for residential behavior programs such as Opower Home Energy Reports.

3. Conduct secondary research to determine and establish deemed values other than 1.0 for programs where the costs of NTG research are not justified, but research shows a NTG value of 1.0 to be unlikely.

4. Conduct primary NTG research to estimate NTG values and/or common practice market baselines for key programs contributing large savings to the utility's demand side management portfolio, using any or multiple methods outlined in this report.

5. For programs warranting primary NTG research, market-based methods may be used as the primary research methodology, providing a comprehensive understanding of energy efficiency markets, facilitating development of common practice market baselines, and/or generating estimates of the free-ridership and spillover components of NTG values.

6. NTG research should begin immediately rather than during the next five-year planning cycle, and resulting NTG values should be applied prospectively.

7. NTG research should be conducted at a minimum once per each five-year planning cycle, but for programs contributing large savings to the portfolio, programs in rapidly changing markets, primary research may need to be conducted every two to three years and possibly more frequently. Ultimately, the research findings will provide guidance as to when additional/new NTG research should be conducted.

8. Periodic review of all established deemed NTG value should be conducted to ensure they remain relevant and appropriate.

According to the Final NTG Report, the Oversight Committee continues to discuss strategies for researching and applying NTG values and is working to find a mutually agreeable path.

In comments filed, the parties noted that the Settlement Agreements also require the IOUs to file an Iowa Statewide Technical Reference Manual (TRM) by September 30, 2016. The IOUs and other energy efficiency stakeholders have contracted with an independent third-party to develop the TRM. It is anticipated that the TRM will contain savings algorithms, incremental cost algorithms and other information needed to determine gross energy savings and system net benefits (subject to the results and recommendations of the Final NTG Report) associated with the offerings of various energy efficiency measures and programs. The TRM will not address every energy efficiency measure or program, but will concentrate efforts on providing standard protocols for determining energy savings for those measures and programs that are common among the utilities or are prescriptive (rather than custom).

Overall, the parties generally agree with the Navigant team's eight recommendations, however, they did provide some specific comments related to these recommendations.

IPL/Black Hills suggested that the stakeholders should discuss which programs should be subject to primary or secondary research and noted that some secondary research is already being done through the TRM. Additionally, IPL/Black Hills believe that some level of the primary and secondary research can begin during the current EM&V plans although budgets may need to be modified to accommodate the additional research. IPL mentioned that it has completed its EM&V for the current plan and additional costs must be weighed with the value provided. Lastly, IPL/Black Hills recommended the NTG values be applied prospectively to future plan years and should only be implemented with specific Board approval in the next plan.

IPL/Black Hills pointed out one obstacle is the uncertainty of whether the Board will require net values to be reported for certain programs or if market-based and program adjustments will satisfy the desire for more robust research on NTG issues.

MidAmerican believes the recommendations in the Final NTG Report strike a balance between cost to customers and the need for better program information. However, MidAmerican does not agree with the recommendation (#6) that suggests research must begin immediately. MidAmerican suggested that the research should be incorporated into other planning activities such as the utilities' EM&V plans or the upcoming joint Assessment of Potential and should allow for joint information gathering efforts for the joint utility programs. According to MidAmerican, if data collection is done under the current plan, it will be necessary to increase budgets for future plan years and evaluate impact on the cost-effectiveness of programs. Finally, MidAmerican recommended the Board consider requiring the utilities to reporting plan savings on a gross basis as well as net basis to preserve comparability with historical plan data.

The OCA believes the report's recommendation provide reasonable guidance for implementing NTG ratios in Iowa. The OCA suggested using existing processes for implementing the recommendations which would include the TRM, EM&V plans, and the joint Assessment of Potential. The OCA noted that the implementation of NTG ratios overlaps with the development of the TRM and believes the implementation of the NTG recommendations should be rolled into the TRM implementation process. Furthermore, the OCA proposed that the TRM Oversight Committee develop a plan[7] to implement the NTG recommendations and file it with the Board. The OCA believes the NTG recommendations should begin immediately, be conducted efficiently, and completed for full consideration in the development of the utilities' 2019-2023 EEP.

The Environmental Intervenors believe applying NTG values will yield more accurate program savings, will encourage the utilities to design more effective programs that more efficiently allocate resources to the most effective programs and measures, and will help identify where markets have been transformed. Focus should be on how to implement the recommendations and to begin the implementation process now. Furthermore, the Environmental Intervenors argued that the TRM is the appropriate venue for conducting secondary research and applying new deemed values or baseline adjustments. The Environmental Intervenors suggested that secondary research may be appropriate for a broader range of programs and should be used where it is readily available for all measures. Additional primary research could be included as part of the utilities' EM&V plans or the upcoming Assessment of Potential and coordinated on a statewide basis to the extent possible and appropriate. The NTG Oversight Committee should be tasked with coordinating the implementation to ensure opportunities to incorporate NTG in the current plan cycle and planning for future plans are not missed.

Staff has reviewed the Navigant team's Final NTG Report and the comments filed. Staff believes the recommendations in the report are reasonable and have generally considered the need for additional research with the cost of such research. Staff agrees with comments that suggest it would be advantageous for a NTG research plan to be drafted, with the understanding that the research can be conducted in conjunction with the TRM, the EM&V of the current energy efficiency plans (2014-2018), the EM&V for the next energy efficiency plans (2019-2023), or through the upcoming joint Assessment of Potential. Staff is unsure that the TRM Oversight Committee is the appropriate group to draft such a plan. Staff believes the NTG Oversight Committee should be the primary party charged with drafting the NTG research plan but should also consult the TRM Oversight Committee to ensure there is no duplication of efforts. The plan should

[7] The OCA suggest the implementation plan include: 1) identify the measures, type of research and appropriate process for implementing the action; 2) identify the manner in which utilities will coordinate EM&V processes to develop and implement consistent NTG ratios; 3) establish a periodic review of NTG values; and 4) establish a timeline for implementation of NTG recommendations.

include the items outlined in OCA's comments as well as provide cost estimates for the research and a description of where the cost for the research will be expensed (TRM, utilities' EM&V plan, Assessment of Potential, etc.). Staff believes the cost of the research and the perceived value of the information generated from that research is an important consideration that should not be overlooked. Staff recommends the NTG research plan be coordinated among the utilities to ensure no utility or utility's customers bear the full cost of the research.

Since the current plan cycle ends in 2018 and because it has not yet been determined when the NTG research will be completed, staff believes it would be disruptive to change the savings and benefit cost calculations during the current plans. Furthermore, staff believes implementing the NTG ratios in the next plan will give the utilities an opportunity to review the research findings and determine how their plan savings will be affected. Staff recommends that the Board specify that the utilities incorporate any NTG ratios that have been developed in their in the next energy efficiency plan (i.e. the 2019-2023 plans) savings and benefit-cost calculations. Additionally, staff agrees with MidAmerican's suggestion that utilities should report both net and gross savings values[8] to preserve comparability with historical savings data reported by the IOUs.

Although staff does not recommend including the NTG ratios in the savings and benefit cost calculations during the current energy efficiency plan, staff anticipates that once completed, the utilities will consider the NTG research to make the current plans better and in planning for the next joint Assessment of Potential study. The research should also be used to inform the development of the next energy efficiency plans.

IV. Recommendation

Staff recommends the Board direct General Counsel to draft an order requesting the NTG Oversight Committee draft a plan for NTG research. This plan should be coordinated with work done on the TRM and the joint Assessment of Potential and should:

1) identify the type of research by program or measure and appropriate process (TRM, Assessment of Potential, EM&V, or other) for implementing the action;
2) identify the manner in which utilities will coordinate EM&V processes to develop and implement consistent NTG ratios;
3) establish a periodic review of NTG values;

[8] Alternatively, the utilities could include in their plan filings (and annual reports) an Excel spreadsheet for plan savings that includes the formula used to calculate net savings which would enable staff to determine gross savings.

4) establish a timeline for implementation of NTG recommendations; and
5) provide cost estimates for the research conducted by program or measure and how that cost will be allocated to each utility.

The Board should specify that the NTG ratios are to be incorporated in the next energy efficiency plans (i.e. the 2019-2023 plans) and that in future energy efficiency plans, the utilities should report both net and gross savings values to preserve comparability with historical savings.

Staff recommends the Board direct the NTG plan be filed with the Board by June 15, 2016.

RECOMMENDATION APPROVED **IOWA UTILITIES BOARD**

/s/ Geri D. Huser *3-14-16*
Date

/bkb

/s/ Elizabeth S. Jacobs *2-25-16*
Date

/s/ Nick Wagner *2-25-16*
Date

Page 6, paragraph 4, IPL/Black Hills' concern over the uncertainty of whether net values be reported for certain programs v. market-based and program adjustments combined. Please clarify this will be addressed. ESJ 2-25-16