Ameren Illinois Company ("AIC")
Load Forecast for the period June 1, 2014 – May 31, 2019

Purpose and Summary

The creation of the load forecast is an essential step in the development of the AIC procurement plan. The load forecast provides the basis for subsequent analysis resulting in a projected system supply requirement. The load forecast process includes a multi-year historical analysis of loads, analysis of switching trends, and competitive retail markets by customer class, known and projected changes affecting load, customer class specific growth forecasts and an impact analysis of statutory programs related to energy efficiency and renewable energy. The results of this analysis and modeling include a 5 year summary analysis of the projected system supply requirements.

Load Forecast Methodology

The models developed for the June 1, 2014 – May 31, 2019 load forecast use both econometric and the statistically adjusted end use (SAE) approaches. The traditional approach to forecasting monthly sales is to develop an econometric model that relates monthly sales to weather, seasonal variables, and economic conditions. The strength of econometric models is that they are well suited to identify historical trends and to project these trends into the future. In contrast, the strength of the end-use modeling approach is the ability to identify the end use factors that are driving energy use. By incorporating an end-use structure into an econometric model, the statistically adjusted end-use modeling framework exploits the strengths of both approaches. This SAE approach was used for all residential and commercial classes, while traditional econometric models were developed for the industrial and public authority classes. Lighting sales were forecasted by either exponential smoothing models or econometric models. Economic variables were obtained from Moody's Economy.com. Saturation and efficiency data were obtained from EIA. Revenue month weather data was created using billing cycles and weighting daily average temperatures according to the billing cycles. After revenue month sales models were created, the models were simulated with calendar month weather (and calendar month days where applicable) to obtain the calendar month sales forecast.

Since the rate structure changed in 2007 and it was not possible to reclassify the historical data according to the new rates; therefore, modeling was done on each revenue class, i.e., residential, commercial, industrial, public authority and lighting. The next step in the energy forecast was to allocate the sales forecast into the new delivery service rates. DS1 class is equivalent to residential class, and lighting sales are equivalent to DS5. Commercial, industrial and public authority sales were separated into the DS2, DS3A, DS3B and DS4 classes after calculating the shares of each delivery service class within a revenue class.

Residential SAE Model

The SAE modeling framework defines energy use in residential sector (USEy,m) in year (y) and month (m) as the sum of energy used by heating equipment ($Heat_{y,m}$), cooling equipment ($Cool_{y,m}$) and other equipment ($Other_{y,m}$). The equation for this is as follows:

$$Use_{y,m} = Heat_{y,m} + Cool_{y,m} + Other_{y,m} \quad (1)$$

Although monthly sales are measured for individual customers, the end-use components are not. Substituting estimates for the end-use elements gives Equation 2,

$$Use_{y,m} = a + b_1 \times XHeat_{y,m} + b_2 \times XCool_{y,m} + b_3 \times XOther_{y,m} + \varepsilon_{y,m} \quad (2)$$

where $XHeat_{y,m}$, $XCool_{y,m}$, and $XOther_{y,m}$ are explanatory variables constructed from end-use information, weather data, and market data. As shown below, the equations used to construct these X variables are simplified end-use models, and the X variables are the estimated usage levels for each of the major end use based on these models. The estimated model can then be thought of as a statistically adjusted end-use model, where the estimated slopes are the adjustment factors.

Constructing XHeat- Electric

Energy use by space heating systems depends on heating degree days, heating equipment share levels, heating equipment operating efficiencies, billing days, average household size, household income, and energy price. The heating variable is represented as the product of an annual equipment index and a monthly usage multiplier. That is,

$$XHeat_{y,m} = HeatIndex_y \times HeatUse_{y,m} \quad (3)$$

where $XHeat_{y,m}$ is estimated heating energy use in year (y) and month (m), $HeatIndex_y$ is the annual index of heating equipment, and $HeatUse_{y,m}$ is the monthly usage multiplier.

The HeatIndex is defined as a weighted average across equipment saturation levels normalized by operating efficiency levels. Given a set of fixed weights, the index will change over time with changes in equipment saturations (Sat) and operating efficiencies (Eff). Formally, the equipment index is defined as:

$$HeatIndex_y = StructuralIndex_y x \sum_{Type} Weight^{Type} x \frac{\left(Sat_y^{Type} \Big/ Efficiency_y^{Type} \right)}{\left(Sat_{05}^{Type} \Big/ Efficiency_{05}^{Type} \right)} \quad (4)$$

In the above expression, 2005 is used as a base year for normalizing the index. The ratio is equal to 1 in 2005. In other years, it will be greater than 1 if equipment saturation levels are above their 2005 level. This will be counteracted by higher efficiency levels, which will drive the index downward. The weights are defined as follows.

$$\text{Weight}^{\text{Type}} = (\text{Energy}_{05}^{\text{Type}} / \text{HH}_{05}) \times \text{HeatShare}_{05}^{\text{Type}} \quad (5)$$

$(\text{Energy}_{05}^{\text{Type}}/\text{HH}_{05})$ is the unit energy consumption of each end-use in 2005 according to EIA data adjusted for each service territory. $\text{HeatShare}_{05}^{\text{Type}}$ is the saturation levels for each heating end-use in 2005 multiplied by a structural index with base year 2005, which is a function of surface area and building shell efficiency.

$$\text{HeatShare}_{05}^{\text{Type}} = \text{Saturation}_{05}^{\text{Type}} \text{ x Structural Index}_{05} \quad (6)$$

where

$$\text{Structural Index}_{y} = (\text{Building Shell Efficiency}_{y} \text{ x Surface Area}_{y}) / (\text{Building Shell Efficiency}_{05} \text{ x Surface Area}_{05}) \quad (7)$$

where

$$\text{Surface Area} = 892 + 1.44 \text{ x House Size} \quad (8)$$

The end-use saturation and efficiency trends are developed from Energy Information Administration (EIA)'s regional projections.

Heating system usage levels are impacted on a monthly basis by several factors, including weather, household size, income levels, prices and billing days. Since the revenue month heating degree days are used in the SAE index, HDD is not used as a separate variable in the model. The estimates for space heating equipment usage levels are computed as follows:

$$HeatUse_{y,m} = \left(\frac{BDays_{y,m}}{AvgBDays}\right) x \left(\frac{WgtHDD_{y,m}}{HDD_{05}}\right) x \left(\frac{Income_{y,m}}{Income_{05}}\right)^{0.20} x \left(\frac{HHSize_{y,m}}{HHSize_{05}}\right)^{0.25} x \left(\frac{Elec\,\text{Price}_{y,m}}{Elec\,\text{Price}_{05,7}}\right) x \left(\frac{Gas\,\text{Price}_{y,m}}{Gas\,\text{Price}_{05,7}}\right) \quad (9)$$

where $\text{Price}_{y,m}$ is the average residential real price of electricity in year (y) and month (m), Price_{05} is the average residential real price of electricity in 2005, $\text{HHIncome}_{y,m}$ is the average real income per household in a year (y) and month (m), HHIncome_{05} is the average real income per household in 2005, $\text{HHSize}_{y,m}$ is the average household size in a year (y) and month (m), HHSize_{05} is the average

household size in 2005, $HDD_{y,m}$ is the revenue month heating degree days in year (y) and month (m), and HDD_{05} is the annual heating degree days for 2005.

Constructing XCool- Electric

To construct XCool index, the same procedures as in XHeat index are followed; the only difference is that cooling degree days are used instead of heating degree days.

Constructing XOther- Electric

Monthly estimates of non-weather sensitive sales can be derived in a similar fashion to space heating and cooling. Based on end-use concepts, other sales are driven by appliance and equipment saturation levels, appliance efficiency levels, average household size, real income, real prices, and billing days. The explanatory variable for other uses is defined as follows:

$$\mathrm{XOther}_{y,m} = \mathrm{OtherIndex}_{y} \times \mathrm{OtherUse}_{y,m} \qquad (10)$$

The methodology for constructing OtherIndex is the same as heating and cooling indices except for the fact that there is no weather variable used in this index.

Peak Forecast

The monthly peak forecast for AIC's eligible customer retail load was performed at the total Ameren Illinois level. Historical hourly data from 2010 to 2011 was collected while the corresponding daily temperatures were used for building the regression models. The daily temperatures are calculated by averaging the daily high and low values. The loads were at transmission level and excluded wholesale load.

Methodology:
Using the hourly input data from 2010 to 2011, a daily peak regression model and a daily energy regression model were constructed. A peak and energy model for every DS class (namely DS1, DS2, DS3A, DS3B, DS4 and DS5) was built. This is because each of these DS classes has a different weather response function. For example, DS1 is the most weather-sensitive class. Year 2010 was taken as a reference calendar year. The actual load for 2010 was weather normalized using the daily peak and energy models, by adopting the Unitized Load Calculation approach. This approach is briefly discussed below.

Unitized Load Calculation:

Using the actual hourly load data estimate the daily peak and daily average load.
Calculate the Unitized Hourly Load using the equation shown below:

Daily peak designated as: $PK_t(0)$

Daily energy designated as: $AVG_t(0)$

Unitized Hourly Load:

$$D_{ht}(0) = \frac{MW_{ht}(0) - AVG_t(0)}{PK_t(0) - AVG_t(0)}$$

The same regression coefficients are used to run-through the normal weather for daily peak and energy.

Weather normalized daily peak designated as: $PK_t(0)'$

Weather normalized daily energy designated as: $AVG_t(0)'$

Normalized hourly load:

$$MW_{ht}(0)' = AVG_t(0)' + D_{ht}(0).(PK_t(0)' - AVG_t(0)')$$

Daily Peak Model

Daily peak loads were modeled using regression within the MetrixND software package. Daily peak load was the dependent variable, and the independent variables included temperature based variables, seasonal variables, day-type variables, calendar variables, and energy growth trend variable. Average daily temperature, defined as the arithmetic mean of the day's high and low temperatures, is the basis for all of the weather variable constructions. Temperature splines are then created from the average daily temperature variable to allow load to respond to temperature in a non-linear fashion. These temperature splines are also interacted with seasonal and weekend variables to allow the temperature response of load to change with respect to these variables (i.e. Load will respond more to an 80 degree day in July than in October, and more on a weekday than a weekend).

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The daily peak model also includes independent binary variables representing each day of the week, each month of the year, and major holidays. This captures the change in load that is not due to weather variation, such as load reductions due to industrial customers and businesses that may not operate on weekends.

Statistical tests verify that the models fit the data quite well. The R-Squared statistic, which indicates the amount of variation in the dependent variable (load) that is explained by the model, is around 88% on an average. The Mean Absolute

Percent Error (MAPE) of the models is around 4.5% on an average, indicating that over all of the years of the analysis, the average day has a small absolute error.

Daily Energy Model

The concept for building the daily energy models is the same as that of daily peak, except that the dependent y-variable is the sum of hourly loads. The R-squared statistic is around 90% on an average for the daily energy models. The MAPE is around 4%.

Forecasting Normal Weather Conditions for the Daily Peak Model

AIC defines normal for a weather element as the arithmetic mean of that weather element computed over the 10 year period from 2003-2012. Because daily average temperature is the weather variable of interest for the peak forecast, the daily average temperature for each date must be averaged over the 10 year period. Unfortunately, averaging temperatures by date (i.e. all January 1st values averaged, then all January 2nd values and so on) creates a series of normal temperatures that is relatively smooth (i.e. no extreme values) and therefore devoid of peak load making weather conditions. To ameliorate this situation, a routine known as the "rank and average" method is used. In this method, all 10 years of historical weather data are collected. For each summer and non-summer of each year, the respective degree day data is sorted from the highest value to the lowest. Then the sorted data is averaged across the 10 years, with all of the hottest days in each summer averaged with each other. Likewise, all of the coldest days in each non-summer season are averaged, while the mild days are averaged together.

After the weather has been averaged by the degree day rank, the days are "mapped" back to the actual weather of the reference calendar year, from each year for the historical period. For the forecast period, an average weather shape is used to map the degree days. This way, the "normal" degree days follow a realistic contour. The normal temperature series is run through the daily peak and daily energy forecast models to produce a normal peak load and a normal energy load forecast.

The year 2010 is used as the reference year. We call it the 'Planning Calendar'. Once we have the normal peak and energy load forecast for 2010, using the unitized load approach discussed above, the normal hourly loads are constructed. This profile shape is extended to the future time periods (2013 to 2019 also called the 'Actual Calendar') after applying suitable calendar adjustments. In order to do this, the first step was to simulate the normal weather (from rank and average technique discussed above) from 2013 to 2018. The next step is to replicate the 24-hour profile shape (considered separately for each month) for each day into the forecast period, by considering the peak producing temperature, second peak

producing temperature, and so on. Thus we have a profile shape for each day from 2013 to 2018.

Using the peak and energy models, we forecast the normal daily peak and energy loads for the same actual calendar time period. The unitized load formula is then applied to the forecasted values to come up with normal hourly loads for all the years from 2013 to 2019.

Final Forecast Steps

The MetrixLT software is used to apply the hourly shapes developed above under the monthly energy sales forecast. For example, for the month of January-2013 there are 744 hourly values and one energy forecast value. The 744 hourly values are shaped according to the energy value. Suitable loss factors are applied to the shaped values to arrive at final hourly forecast. This is done for each DS class separately. The final hourly system values (and hence the monthly peaks) are obtained by aggregating the values from each DS class.

Switching Trends and Competitive Retail Market Analysis

It is important to note in any discussion of retail switching the inherent difficulty in projecting future activity. AIC necessarily must make some assumption of future switching levels given that 16-111.5(b) of the PUA requires a five year analysis of the projected balance of supply and demand. In making these assumptions, AIC has utilized an extension of existing trends and their best judgment to arrive at the expected values. This was accomplished by first establishing the current trend line utilizing actual switching data by customer class for the post rate freeze period (January 2007 through May 2013). AIC then reviewed these trends and using their qualitative judgment made adjustments such that the end result is a forecast generally characterized by increasing switching, albeit at a rate somewhat slower than prior years given the significant switching that has already occurred and the reduction in AIC supply price compared to prior years. Given the difficulties inherent with projecting switching, it is expected that subsequent switching projections for future planning periods could differ substantially, and thus will impact the projection of AIC power supply requirements for eligible retail customers. Hence, AIC has also developed additional switching scenarios that address high and low switching scenarios.

Residential

As of June 1, 2013, there were thirty three Alternative Retail Electric Suppliers (ARES) certified by the ICC and registered with Ameren. Twenty ARES are certified by the ICC to supply both residential and non-residential load and thirteen ARES are certified by the ICC to supply only non-residential load (including four that are Subpart E ARES). Residential switching has increased

over the last twelve month period such that as of June 1, 2013, 53.8% of residential usage of AIC was supplied by ARES (55.4% when RTP is considered). AIC expects the amount of load supplied by ARES will increase this summer as a result of the success of the third round of government aggregation referenda and the resulting successful solicitations for supply. In addition, non-government aggregation switching continues to grow.

Although the AIC supply price for the current plan year has dropped considerably, residential switching could continue to be positively influenced by an increase in the number of ARES willing to supply residential customers, aggressive marketing campaigns, the development of value added products and services and further expansion of government aggregation. It is worth noting that the amount of ARES approved to serve residential customers has increased from fourteen to twenty in the last twelve months. While the difference between market prices and the AIC tariff price appears to be closer relative to prior years as illustrated by the Price to Compare website sponsored by the Office of Retail Market Development, the momentum appears to suggest switching of residential load to ARES should continue, albeit at a slower rate relative to the last eighteen months.

In addition to the ARES options, residential customers may opt for real time pricing through a program administered for AIC by CNT Energy. Since program inception in 2007, participation in the program has been steadily increasing and is now approximately 1.6% of available load.

AIC estimates that the combination of residential switching to ARES and real time pricing will be greater than 79% of energy by the end of the five year planning period. But it should be noted that the variability in this forecast could be considerable and such variability could be driven by the aggressiveness of ARES marketing campaigns, customer acceptance and the headroom between ARES contracts and AIC fixed price tariffs. Due to the nature of a three year procurement cycle, forecasting switching is inherently difficult. During times of declining power prices, AIC's fixed tariff price will tend to be higher than the market rate, but in turn, during times of escalating power prices, one would expect AIC to have a lower tariff price than the current market rate. This could lead to a return of residential customers to the AIC fixed price tariff in the future. While not predicted in our expected switching scenario, AIC has assessed in its low switching scenario the impact of government aggregation load returning to AIC fixed price tariffs after the expiration of current contracts. In addition, AIC has assessed a higher switching scenario where residential switching approaches 100% over the planning horizon. The difference between the expected, high and low switching scenarios is substantial. This is reflective of significant uncertainty over the planning horizon especially as it pertains to the relationship of the AIC fixed tariff price relative to market prices and customer response to the relationship. While AIC believes the expected switching scenario is a reasonable assessment, the high and low switching scenarios could also occur. Therefore, in

order to assist the IPA in its hedging efforts, AIC proposes that it monitor switching in the residential class and provide an updated residential switching forecast to the IPA in November 2013 and then again in March 2014 (this is consistent with the protocol recommended and approved in the 2013 IPA procurement plan). Where warranted, the IPA may wish to consider utilizing this updated forecast for its final procurement quantities.

0-149 kW Non-Residential

This customer class has seen approximately 64% load switching since January 1, 2007 up from about 57% a year ago. Future switching patterns are difficult to predict due to uncertain market conditions. However, as long as market prices stay below the AIC tariff price, one could reasonably expect switching to continue its upward trend.

In addition, now that ARES have been successful in gaining significant switching among the larger industrial and commercial customer classes, it is reasonable to assume ARES will focus efforts on the smaller customer classes. Finally, customers in this class also have an option for real time pricing, giving them other alternatives to switch away from the fixed price tariff.

AIC estimates that switching in this class will be in excess of 78% of load by the end of the five year planning period. However, the substantial difference between the expected, low and high switching scenarios previously described in the residential section also applies to this customer class and is reflective of significant uncertainty over the planning horizon.

150-399 kW Non-Residential

This customer class has seen approximately 86% load switching since January 1, 2007 up from about 82% a year ago. The ICC had previously declared that this class of customers is competitive with a transition period that became effective May 1, 2011. This means that customers currently taking fixed price supply from AIC will be allowed to continue until May 1, 2014, unless such customers switch to ARES or real time pricing before then, at which point such customers cannot return to AIC fixed price supply. Any customer that currently takes supply from ARES or from AIC real time pricing will not be able to return to AIC fixed price supply. Effective May 1, 2014, all customers must receive supply from either ARES or AIC real time pricing.

Given this development, AIC estimates that load switching in this class will be 100% by the end of the five year planning period.

400-999 kW Non-Residential

Section 16-113 (f) of the PUA declared this class to be competitive on June 1, 2010. As such, all customers are required to take supply under an ARES or the AIC real time pricing tariff. Therefore, this customer class assumes 100% switching and is therefore no longer considered part of the AIC fixed price load.

1,000 kW and Greater Non-Residential

This customer class is declared competitive and therefore these customers can no longer take the fixed price supply after May 31, 2008 and is therefore not included in the AIC fixed price load.

Street Lighting (DS5)

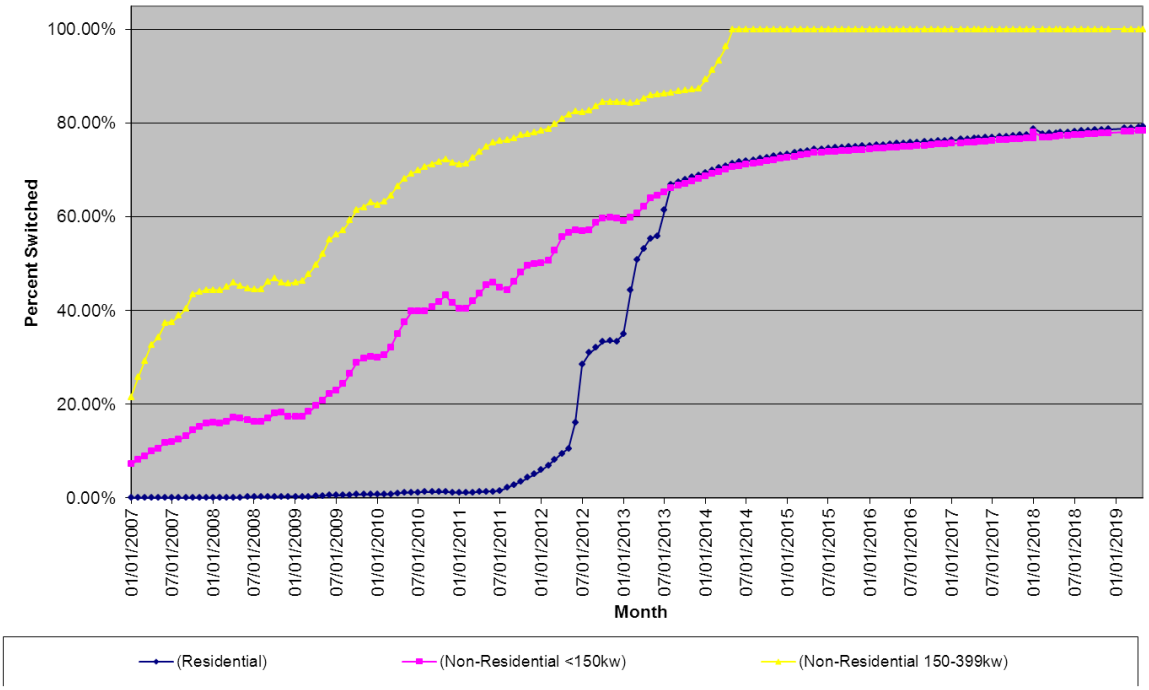
Although a small part of the fixed price load, AIC utilized its customer data system to estimate the quantity of load switching away from the fixed price tariff. This load switching is estimated to be approximately 35% as of June 1, 2013 and is projected to grow to about 51% by the end of the five year period.

Switching Patterns

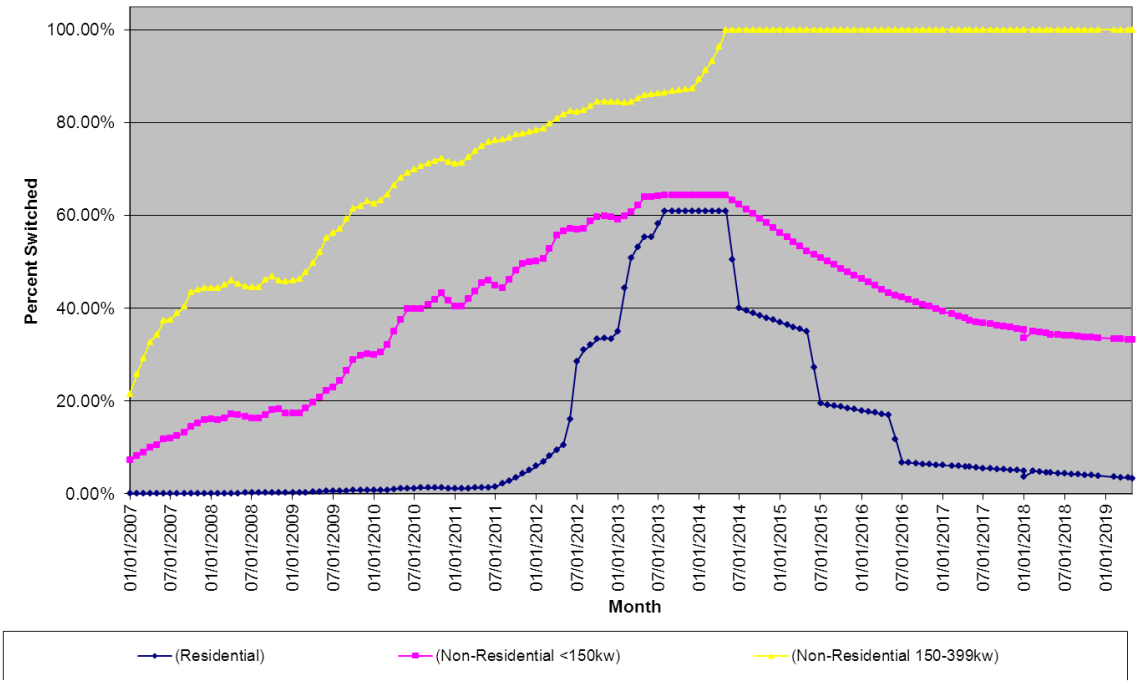
As noted previously, it is reasonable to expect further switching among residential and small commercial customer classes to either real time pricing or ARES. However, uncertainty is amplified since the AIC fixed price tariff has been lowered considerably over the prior period and the future relationship of the AIC tariff to market prices remains uncertain. The significant amount of government aggregation contracts expiring over the planning horizon adds to this complexity.

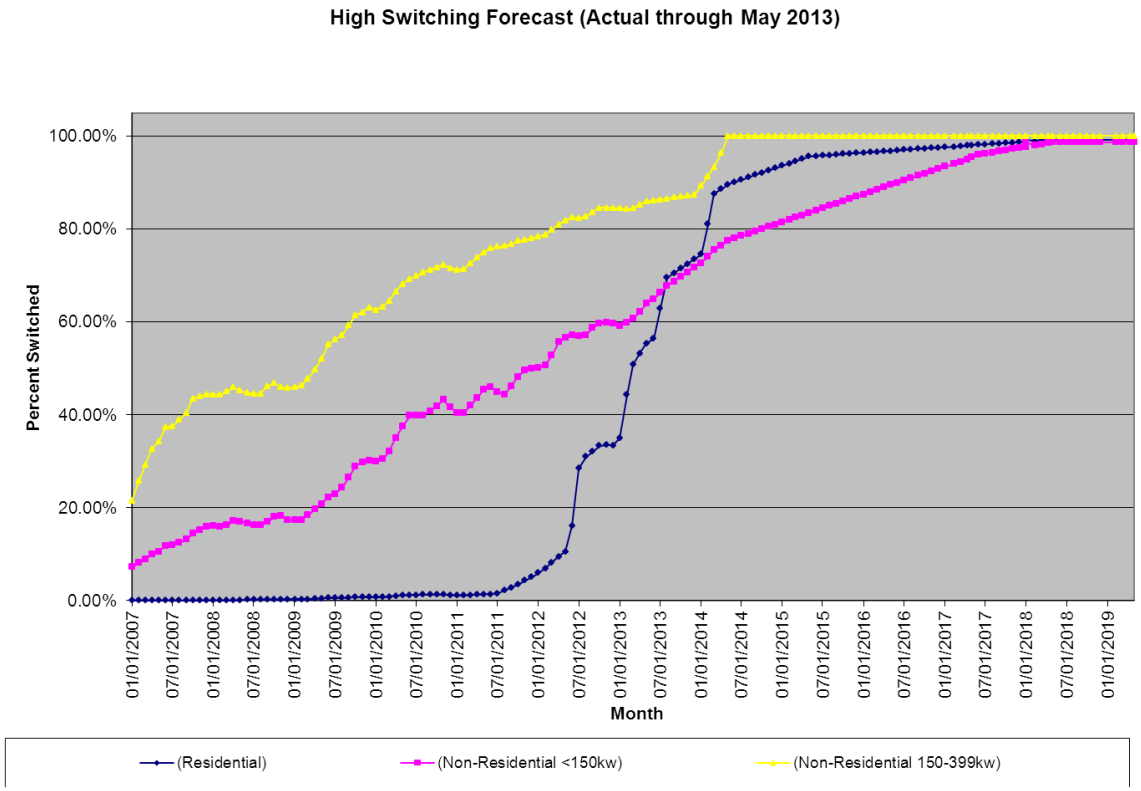
The AIC expected, low and high switching scenarios through May 31, 2019 are included in the graphs below:

Expected Switching Forecast (Actual through May 2013)



Low Switching Forecast (Actual through May 2013)





Known or Projected Changes to Future Loads

Known or projected changes to future loads include:

1) Customer switching estimates as previously discussed.
2) Potential incremental Energy Efficiency initiatives as discussed below.

Growth Forecasts by Customer Class

For the residential electric customer class, Ameren Illinois currently projects a 5-year Compound Annual Growth rate of 0.2%. Commercial growth rates for Ameren Illinois are projected to be 1.2% due to a major DS4 Customer expansion.

Impact of Energy Efficiency on Power Supply Forecast: Existing Energy Efficiency Programs

Please reference the AIC EE IPA submission documents for more detailed information. The impact of *existing* energy efficiency programs is included in the AIC forecasts.

Impact of Energy Efficiency Codes & Appliance Standards

The AIC procurement plan forecast utilizes a statistical adjusted end use (SAE) model approach for the residential and commercial classes. The SAE modeling framework defines energy usage as the sum of energy used for heating equipment, cooling equipment and other equipment. The other end use incorporates the impact of the new lighting standard as well as efficiency improvements across other household appliances.

The models are based on the Energy Information Administration's annual energy outlook. The information from EIA includes the following:

Updated equipment efficiency trends
Updated equipment and appliance saturation trends
Updated structural indices
Updated annual heating, cooling, water heating & Non-HVAC indices

Impact of Energy Efficiency on Power Supply Forecast: Incremental Energy Efficiency Programs

Pleaser reference the report "AIC EE IPA Submission Document 2013 Y7 2013 07 02.doc" in regards to the incremental energy efficiency impact should the IPA decide to pursue expansion of existing programs in its procurement plan. Note that the Power Supply forecasts provided to the IPA do not include the impact of these incremental Energy Efficiency programs with the exception of one scenario which is labeled accordingly.

Capacity Forecast

Effective June 1, 2013, MISO implemented an *annual* capacity construct with zonal differences as compared to the *monthly* capacity construct with no zonal differences previously employed.

The current transmission losses assumed in the AIC forecast are 2.2% and the reserve assumptions are 6.2%. It is likely that these values will be updated by MISO prior to any spring 2014 procurement events. As in past procurement cycles, AIC will provide updated capacity quantities to the IPA once the revised transmission losses and reserves are published.

Electric Energy Efficiency Compliance With 220 ILCS 5/16-111.5B

(Provisions Relating to Energy Efficiency Procurement)

An Accompaniment to AIC's Procurement Submission

Prepared Pursuant to Section 16-111.5 of the Illinois Public Utilities Act

Program Year:

June 1, 2014 – May 31, 2015

Ameren Illinois Company

July 12, 2013

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1.0 Submission Summary

1.1 Introduction

This submission is being provided by Ameren Illinois Company ("AIC") to the Illinois Power Agency ("IPA") for the purpose of complying with the requirements of Section 16-111.5B ("Section") of the Illinois Public Utilities Act ("Act"), 220 ILCS 5/16-111.5B.[1] As instructed by the Section, this submission is an accompaniment to AIC's procurement plan prepared pursuant to Section 16-111.5 of the Act. This is the second submission provided by AIC to abide by this Section. The first submission was provided last year.

1.2 Background

AIC's first electric energy efficiency and demand response plan was approved by the Illinois Commerce Commission ("Commission" or "ICC") in 2007 in Docket No. 07-0539. Being both a gas and electric utility and recognizing the benefits of an integrated dual fuel savings portfolio of services for its customers, AIC also received approval by the Commission for a voluntary gas energy efficiency plan in 2008 in Docket No. 08-0104 (collectively referred to as "Plan 1") for Program Years (PY) 1, 2 and 3 represented by June 1 through May 31 for the years 2008, 2009, and 2010. Consistent with this philosophy, AIC filed and was approved for an integrated dual fuel portfolio Plan ("Plan 2")[2] for PY 4, 5, and 6 represented by June 1 through May 31 for the years 2011, 2012, and 2013. AIC will be filing its next integrated dual fuel portfolio Plan ("Plan 3") September 1, 2013 for PY 7, 8, and 9 represented by June 1 through May 31 for the years 2014, 2015, and 2016.

This submission to the IPA pertains to a single program year of savings and costs whose timing is aligned with PY7 (June 1, 2014 – May 31, 2015) of the AIC energy

[1] The Section is included in this submission as Appendix 1.

[2] The Act specifies that a gas utility affiliated with an electric utility shall integrate gas and electric efficiency measures into a single program.

efficiency portfolio which is also the first year of Plan 3. While an order is anticipated for the IPA plan and this submission in December 2013, an order for Plan 3 Is not anticipated until February 2014. Section 16-111.5B states this submission includes identification of new or expanded programs that are incremental to Section 8-103. Since this year's IPA submission is submitted prior to the submission of Plan 3, and acquires an order prior to the Plan 3 order, AIC cannot provide a submission that includes expansion of programs that have not yet been approved. Therefore this submission represents one year of savings and costs. However, AIC reserves the right to submit multiple years of programs and related savings in future submissions.

1.3 Analysis and Assumptions

Consistent with ICC directives, AIC has actively participated in the development of a statewide Technical Resource Manual ("TRM")[3] which is the guiding document and tool for determining energy efficiency measure savings in Illinois. Therefore this submission's programs were analyzed using measure values reflected in the 2013 updated TRM as of the date of this submission. Besides creating consistency with statewide accepted values, using TRM values provides for seamless compatibility and integration with AIC's current Section 8-103 energy efficiency portfolio and provides reasonable confidence in the methodology used to determine the savings estimates provided in this submission.

To add rigor, expertise and independence to the analysis for this submission, AIC engaged the national consulting firm of Applied Energy Group ("AEG") who utilizes the robust "BENCOST" modeling software to determine measure savings and cost-effectiveness. BENCOST is an open-source spreadsheet tool that allows for full transparency. AEG has intimate knowledge of energy efficiency programs in Illinois by virtue of developing the 3-year Plans for the AIC, Peoples Gas and North Shore Gas energy efficiency portfolios, performed the analysis for AIC's energy efficiency IPA Plan submission last year, and being engaged for consulting services with AIC for four years

[3] The first TRM was filed in Docket 12-0528. The filing of the updated TRM was pending at the time of drafting this submission.

prior to this engagement. AEG performed the analysis included in this submission and remains engaged to address any questions concerning it.

All estimated savings referenced in this submission represent what is commonly referred to as "net" savings, as opposed to "gross" savings.[4] As reflected in the accompanying Excel workbook analyses, which are submitted confidentially to the IPA, AIC applied the relevant and most recent net-to-gross ("NTG") ratios provided by the independent evaluators who evaluate AIC's programs to determine net savings estimates.

1.3 Collaboration

AIC performed numerous activities to seek collaboration for input to this submission and the process during 2011-2012, including:

- Participated in the IPA/ICC Section 16-111.5B Workshop[5] ("Workshop") with:
  - Providing comments,
  - Providing reply comments, and
  - Workshop attendance and discussion participation;
- Met with the director of the IPA;
- Presented to the Illinois Stakeholder Advisory Group (which included Staff); and
- Met with interested key stakeholders, which included full disclosure of bids and analyses.

1.4 Reservation of Rights and Requests

[4] The "gross" energy impact is the change in the energy consumption and demand that results directly from program related actions taken by energy consumers that participate in the programs regardless of the extent or nature of program influence on these actions. "Net" energy impact is that percentage of gross energy impact attributable to the program. NTG = (1 – freeridership + spillover), where "freeridership" refers to savings participants would have experienced in the absence of the program, and spillover refers to savings incurred by non-participants who did not claim assistance for additional implementation of measures supported by the program. Source: EPA's *Model Energy Efficiency Program Impact Evaluation Guide*, http://www.epa.gov/cleanenergy/documents/suca/evaluation_guide.pdf.

[5] The Workshop summary is included in this submission as Appendix 2.

AIC makes this submission in accordance with the Act, but notes that it is premised on the information and materials known at the time of the submission. To the extent circumstances beyond AIC's control change (e.g., a program or measure is no longer offered by an implementer, independent evaluator changes in values, etc), AIC reserves the right to update, revise or amend this submission, including AIC's positions reflected herein, as appropriate.

Most especially, AIC notes some aspects as of how to conform to the Act are yet unresolved as identified in the order for last year's IPA Plan (Docket No.12-0544) and as discussed, yet unresolved, at the IPA/ICC Workshop.[6] This is primarily due to the timing of events and potential changes in values used to determine savings. The following table illustrates the lack of alignment resulting from the timing of the IPA process:

[6] The Workshop summary is included in this submission as Appendix 2.

Activity	Timing
Bids submitted	March 15, 2013
Bids reviewed, analysis performed using current TRM and NTG values	March-June, 2013
Utility's IPA Submission	July 15, 2013
IPA order	December, 2013
Illinois TRM and NTG values revised	March, 2014
IPA programs implemented	June, 2014

As illustrated, Illinois energy efficiency values are subject to change from the date of bid submission and prior to program implementation which occurs more than a year following bid submission. A result of which may be that a vendor may choose not to execute a contract for implementing a program even after the ICC issues an order for the 2014 IPA Plan. Therefore AIC is formally requesting in this submission that the measure values and NTG ratios used in the IPA program analyses, as represented in Appendix 7, are hereby assumed "fixed" for the duration of program implementation and for evaluation purposes to determine savings achieved by the program. AIC also notes that having these values fixed was the consensus opinion at the IPA/ICC Workshop.[7] In the event the ICC does not fix these values:

1) AIC reserves the right to adjust the savings goals in accordance with changes to the values per the revised Illinois TRM and evaluation results for the NTG values ex-post the order received for the IPA Plan.
2) AIC or vendors may choose not to implement the programs subject to the changes in values.

[7] The Workshop summary is included in this submission as Appendix 2. Consensus item #63 at 6 reads as follows, "IL-TRM values "in effect" at time of bid submission should be deemed for the length of time the Commission approves the Section 16-111.5B EE program, including the Section 16-111.5B portion of an expanded EE program, where "in effect" means the most recent Commission-approved IL-TRM". In addition it was the majority opinion that, "Limit to three year EE procurement under Section 16-111.5B and then can deem NTG for those three years for EE programs approved pursuant to Section 16-111.5B, including the Section 16-111.5B portion of an expanded EE program." (Item #61C at 15).

3) AIC or vendors may choose not to implement the programs if they are subject to a retrospective evaluation to determine savings based on revised Illinois TRM and NTG values.[8]

4) A recalculated total resource cost test (TRC)[9] based on revised values may determine the program is no longer cost-effective.

Further, AIC recognizes that the ICC approves the energy efficiency program savings goals and costs. AIC notes, however, that the assessed savings and costs are estimates. AIC also notes that per the legislation the utility has to perform an open bidding process and the bids are from external vendors and include participation levels that the utility did not estimate.[10] Thus it is realistic to assume that actual market results will differ from anticipated results. Therefore AIC formally requests approval for an indeterminate fluctuation in savings that may occur by program year end.

In addition, AIC seeks confirmation that AIC is permitted to recover costs that incidentally (3 - 5%) exceed the estimated program costs as consistent with the Commission finding in the ComEd energy efficiency "Plan 2" plan docket #10-0570, "Consistent with our *EEDR Order*, we again approve as reasonable ComEd's request that it be permitted to recover prudently and reasonably incurred costs that incidentally

[8] Workshop majority opinion was reached for item #71 at 16 which states, "Ex-post evaluation results should only be used prospectively to adjust TRM values, NTG and forecast savings.

[9] The TRC is defined by IL statute in Sec 1-10 of the Act as, " "Total resource cost test" or "TRC test" means a standard that is met if, for an investment in energy efficiency or demand-response measures, the benefit-cost ratio is greater than one. The benefit-cost ratio is the ratio of the net present value of the total benefits of the program to the net present value of the total costs as calculated over the lifetime of the measures. A total resource cost test compares the sum of avoided electric utility costs, representing the benefits that accrue to the system and the participant in the delivery of those efficiency measures, as well as other quantifiable societal benefits, including avoided natural gas utility costs, to the sum of all incremental costs of end-use measures that are implemented due to the program (including both utility and participant contributions), plus costs to administer, deliver, and evaluate each demand-side program, to quantify the net savings obtained by substituting the demand-side program for supply resources. In calculating avoided costs of power and energy that an electric utility would otherwise have had to acquire, reasonable estimates shall be included of financial costs likely to be imposed by future regulations and legislation on emissions of greenhouse gases."

[10] Workshop consensus item #84 at 6 states as follows, "Section 16-111.5B does not require the utility to be responsible for determining what vendors should be contracted for what amount of savings."

exceed the spending screen in a given Plan year". (at 40). [11] The need to provide this flexibility was also recognized as a consensus item at the Workshop.[12] In lieu of this express approval AIC will be forced to prematurely discontinue approved programs prior to the budget cap being expended.

2.0 Demonstration of Compliance

As set forth in Section 16-111.5B(a), "Beginning in 2012, procurement plans prepared pursuant to Section 16-111.5 of this Act shall be subject to" certain additional requirements relating to energy efficiency. As set forth below, this submission contains the information and materials called for by the Act.

2.1 Building Codes and Appliance Standards

"(a)(1) The analysis included pursuant to paragraph (2) of subsection (b) of Section 16-111.5 shall also include the impact of energy efficiency building codes or appliance standards, both current and projected."

The impact of building codes and appliance standards were used during the development of this submission and are explicitly incorporated in the AIC forecast, separately accompanying this submission.

2.2 Assessment of Opportunities to Expand Programs

"(a)(2) The procurement plan components described in subsection (b) of Section 16-111.5 shall also include an assessment of opportunities to expand the programs promoting energy efficiency measures that have been offered under plans approved pursuant to Section 8-103 of this Act or to implement additional cost-effective energy efficiency programs or measures."

[11] AIC notes Staff support as stated in the final order for Docket #10-0570 at 39, "Staff also supports ComEd's request for approval of the ability to seek recovery of prudently and reasonably incurred costs that incidentally exceed the spending screen in a given Plan year. Staff Ex. 1.0 at 12."

[12] Workshop consensus item #10(OE) at 19 states as follows, "On a program by program basis, the Commission may authorize a range above a budgeted program amount to allow for operational flexibility."

This assessment is being provided to satisfy this requirement and is an accompaniment to the AIC forecast. AIC notes that as stated the assessment was performed using current Illinois TRM and NTG values and unless fixed, are subject to change.

2.3 Potential Study

"(a)(3) In addition to the information provided pursuant to paragraph (1) of subsection (d) of Section 16-111.5 of this Act, each Illinois utility procuring power pursuant to that Section shall annually provide to the Illinois Power Agency by July 15 of each year, or such other date as may be required by the Commission or Agency, an assessment of cost-effective energy efficiency programs or measures that could be included in the procurement plan. The assessment shall include the following:

(A) A comprehensive energy efficiency potential study for the utility's service territory that was completed within the past 3 years."

Please refer to Appendix 4 for the AIC energy efficiency potential study, which was completed in 2013.

2.4 Identification of Programs

"(a)(3)(C) Identification of new or expanded cost-effective energy efficiency programs or measures that are incremental to those included in energy efficiency and demand response plans approved by the Commission pursuant to Section 8-103 of this Act and that would be offered to all retail customers whose electric service has not been declared competitive under Section 16-113 of this Act and who are eligible to purchase power and energy from the utility under fixed-price bundled service tariffs, regardless of whether such customers actually do purchase such power and energy from the utility.

Table 1 provides a summary of (1) those programs that resulted from the bidding process and therefore were assessed, (2) identification of those programs that passed

the TRC test and (3) those programs that were included in the estimated MWH savings goal submitted by AIC by way of this submission.[13]

Table 1: Program Assessment Results: TRC

RESIDENTIAL:	**Passed Cost-Effectiveness Test (TRC)**	**Included in Estimated MWH Goal**	**Estimated net MWH Savings[14]**
Multi-Family	X	X	13,289
Specialty Lighting	X	X	5,569
Rural Efficiency Kits	X	X	3,316
All-Electric Homes	X	X	10,437
Dual Fuel Education Kits	X		142
Smart Strips			1,970
SMALL BUSINESS:			
Direct Install – Base Program*	X	X	28,670
Direct Install – Expanded Program*	X		68,537
Commercial Buildings DI	X		5,880
Smart Strips			4,845
RCx Lite			3,000
Total Savings for programs included in the MWH Goal			**61,281**

*The difference between the base program and expanded is a higher number of participants and installations.

AIC notes that the savings estimates were determined using the current Illinois TRM and NTG values and unless these values are fixed, they are subject to change. With this submission, AIC is formally requesting that these values are fixed for implementation and evaluation for the determination of achieved savings.

[13] Appendix 3 contains a description of programs whose savings were included the estimated MWH savings goal. Please refer to Appendix 6, 7 for a copy of all bids as submitted and further analyses.

[14] Net savings was determined assuming current Illinois TRM and NTG values. As stated these values are either fixed per the order for this docket or the savings goals are subject to revision.

The following bids are not included in the MWH goal:

Program	Explanation
Education Kits	1) Proposed as a gas and electric savings program. The 16-111.5B energy efficiency incremental savings is for the purposes of decreasing electric procurement and not gas.. 2) Bid as a dual fuel program for a discrete community where AIC is not the gas utility. 3) Assumes Nicor is participating as the gas utility. Nicor is not a party to this procurement process and AIC and the IPA cannot assume their participation. 4) Costs for Nicor's gas savings portion cannot be collected through the AIC electric rider as provided in the Act.
Smart Strips (RES and BUS)	Does not pass TRC.
Direct Install – Expanded Program	2013 (Y6) is the first year AIC is implementing the SBDI program as approved in the 2013 IPA Plan. AIC considers it prudent and responsible to first assess and evaluate the performance of this program prior implementing it again on a larger scale. Alternatively, AIC is recommending that it is included in the 2014 IPA plan at the same level as approved in 2013.
Commercial Buildings DI	This program would compete with and is duplicative of the SBDI program.
RCx Lite	Does not pass TRC.

2.5 Analysis Showing a Reduction in Overall Cost of Service

"(a)(3)(D) Analysis showing that the new or expanded cost-effective energy efficiency programs or measures would lead to a reduction in the overall cost of electric service."

As indicated as the preference in the IPA/ICC Workshop[15], AIC performed a "Utility Cost Test" ("UCT") to determine if the cost-effective energy efficiency programs or measures would lead to a reduction in the overall cost of electric service. The UCT allows utilities to evaluate costs and benefits of energy efficiency programs (and/or demand response and distributed generation) on a comparable basis with supply-side investments. A UCT greater than 1 indicates that energy efficiency programs are lower-cost approaches to meeting load growth than wholesale energy purchases and new generation resources (including delivery and system costs). A UCT greater than 1 indicates that the total

[15] Workshop consensus item #105 at 14 states, "Section 16-111.5B(a)(3)(D) can be interpreted as the Utility Cost Test ("UCT")."

costs to save energy are less than the costs of the utility delivering the same power. A positive UCT also shows that customer average bills will eventually go down if efficiency is implemented.[16] All programs included in the estimated MWH goal passed the UCT except for Specialty Lighting. Table 2 indicates those cost-effective programs that passed the UCT.[17]

Table 2: Program Assessment Results: UCT

RESIDENTIAL:	**Passed Utility Cost Test (UCT)**	**Included in Estimated MWH Goal**	**Estimated net MWH Savings[18]**
Multi-Family	X	X	13,289
Specialty Lighting		X	5,569
Rural Efficiency Kits	X	X	3,316
All-Electric Homes	X	X	10,437
Dual Fuel Education Kits	X		142
Smart Strips			1,970
SMALL BUSINESS:			
Direct Install – Base Program*	X	X	28,670
Direct Install – Expanded Program*	X		68,537
Commercial Buildings DI	X		5,880
Smart Strips			4,845
RCx Lite			3,000
Total Savings for programs included in the MWH Goal			**61,281**

*The difference between the base program and expanded is a higher number of participants and installations.

[16] EPA's "Understanding Cost-Effectiveness of Energy Efficiency Programs", *A Resource of the National Action Plan For Energy Efficiency,* November 2008.
http://www.epa.gov/cleanenergy/documents/suca/cost-effectiveness.pdf

[17] Refer to Appendix 7 for detailed analyses.

[18] Net savings was determined assuming current Illinois TRM and NTG values. As stated these values are either fixed per the order for this docket or the savings goals are subject to revision.

In addition, Staff asked for the impact that the MWH goal cost would have on customer utility bills. Based on 2013 (Y6) data the additional costs for this submission's MWH goal are $0.001255 per kWh for DS-1 (Residential) customers and $0.001503 per kWh for DS-2 (Small Business <150 KW) customers. For an average customer this equates to an additional $14 per year for DS-1 customers and an additional $53 per year for DS-2 customers, which is an increase of 68.43% for DS-1 customers and an increase of 86.01% for DS-2 customers above the section 8-103 rider charge.

2.6 Analysis Showing How the Cost of Energy Compares to Prevailing Cost of Supply

"(a)(3)(E) Analysis of how the cost of procuring additional cost-effective energy efficiency measures compares over the life of the measures to the prevailing cost of comparable supply."

As indicated by most participants as acceptable at the IPA/ICC Workshop[19], AIC performed the TRC test to determine if the cost of procuring the cost-effective energy efficiency measures over the life of the measures compares positively to the prevailing cost of comparable supply. The results of the TRC test are shown in Table 1.

2.7 An Estimated Energy Savings Goal

"(a)(3)(F) An energy savings goal, expressed in megawatt-hours, for the year in which the measures will be implemented."

AIC is providing an estimate of savings based on an analysis that uses current net-to-gross ratios and the current Illinois TRM. As explained in Section 1.4, AIC is hereby requesting that these values remain "fixed" for the determination of savings achieved upon program implementation.

As indicated in Tables 1 and 2 above, the estimated net savings goal for cost-effective programs that pass the TRC test would be 61,281 MWH. The following table sets forth the estimated savings goal, as well as the estimated costs that could be incurred in achieving those additional savings.

[19] Workshop item #110 without objection at 14 states, Section 16-111.5B(a)(3)(E) can be interpreted as the Total Resource Cost ("TRC") test."

Table 3: Total Y7 Estimated Section 16-1115.B Savings and Costs for Programs Included in the MWH Savings Goal

Program	Cost	Net MWH Savings at Meter	Net MWH Savings at Bus bar
RESIDENTIAL:			
Multi-Family	$ 4,292,956	13,289	14,247
Specialty Lighting	$ 2,794,093	5,569	5,970
Rural Efficiency Kits	$ 377,365	3,316	3,555
All-Electric Homes	$ 7,039,702	10,437	11,189
SMALL BUSINESS:			
Direct Install – Base Program	$ 8,715,840	28,670	30,719
Total	**$ 23,219,956**	**61,281**	**65,680**

2.8 Impact on Procurement

"(a)(3)(G) For each expanded or new program, the estimated amount that the program may reduce the agency's need to procure supply."

As set forth in Table 4 below, the estimated eligible retail customer savings is 16,748 MWH.[20] The estimated savings at the bus bar would be 17,950 MWH. This is based on the switching data related to the forecast supplied in the other portion of this submission.

[20] In order to determine an estimate of the IPA's reduction in procuring supply, the savings estimates must exclude those who are not eligible retail customers.

Table 4: Savings Attributable To Eligible Retail Customers

	% Eligible Retail		Est Net MWH		Est MWH (Eligible Retail)	
	DS1	DS2	DS1	DS2	DS1	DS2
Jun-14	28.34%	29.12%	2,718	2,389	770	696
Jul-14	28.09%	28.87%	2,718	2,389	763	690
Aug-14	27.84%	28.62%	2,718	2,389	757	684
Sep-14	27.59%	28.37%	2,718	2,389	750	678
Oct-14	27.34%	28.12%	2,718	2,389	743	672
Nov-14	27.09%	27.87%	2,718	2,389	736	666
Dec-14	26.84%	27.62%	2,718	2,389	729	660
Jan-15	26.59%	27.37%	2,718	2,389	723	654
Feb-15	26.34%	27.12%	2,718	2,389	716	648
Mar-15	26.09%	26.87%	2,718	2,389	709	642
Apr-15	25.84%	26.62%	2,718	2,389	702	636
May-15	25.59%	26.37%	2,718	2,389	695	630
Total			32,612	28,670	8,794	7,954

2.9 Third-Party Solicitation

"(a)(3)(G) (continued) In preparing such assessments, a utility shall conduct an annual solicitation process for purposes of requesting proposals from third-party vendors, the results of which shall be provided to the Agency as part of the assessment, including documentation of all bids received. The utility shall develop requests for proposals consistent with the manner in which it develops requests for proposals under plans approved pursuant to Section 8-103 of this Act, which considers input from the Agency and interested stakeholders."

AIC performed an RFP and bidding process from January 2013 through March 2013. AIC circulated the RFPs to interested stakeholders, Staff and the IPA. The bids and the resulting AIC analyses of those bids were shared with key stakeholders. The RFP and all bids received are contained in the materials attached as Appendix 5 and 6. Appendix 6 is provided to the IPA as confidential material. Appendix 7 provides the analyses of the bids received and is also provided to the IPA as confidential material.

2.10 Collaboration

"(a)(5) …. The utility shall consider input from the Agency and interested stakeholders on the procurement and administration process."

AIC sought and considered the input of the IPA, ICC Staff, and other interested stakeholders. AIC also participated in an extensive ICC/IPA Workshop process during 2013 which included deliberation about the bidding process and administration of programs. AIC remains committed to continuing this collaborative process, as well as the collaborative relationships and process that has been established during the implementation of the Section 8-103 portfolio.

2.11 Cost Recovery and Budget

"(a)(6) An electric utility shall recover its costs incurred under this Section related to the implementation of energy efficiency programs and measures approved by the Commission in its order approving the procurement plan under Section 16-111.5 of this Act, including, but not limited to, all costs associated with complying with this Section and all start-up and administrative costs and the costs for any evaluation, measurement, and verification of the measures, from all retail customers whose electric service has not been declared competitive under Section 16-113 of this Act and who are eligible to purchase power and energy from the utility under fixed-price bundled service tariffs, regardless of whether such customers actually do purchase such power and energy from the utility through the automatic adjustment clause tariff established pursuant to Section 8-103 of this Act, provided, however, that the limitations described in subsection (d) of that Section shall not apply to the costs incurred pursuant to this Section or Section 16-111.7 of this Act."

In accordance with the above, if the IPA and ICC choose to include energy efficiency programs in the procurement plan to be implemented by AIC, then AIC shall recover its costs. AIC filed a revised Rider EDR complying with this requirement last year. Estimated program costs were provided in Table 3.

AIC notes that the Company retains independent evaluators for the evaluation of its Section 8-103 energy efficiency portfolio and, to maintain evaluation consistency and as per the consensus at the Workshop, also plans on retaining the same evaluators for the evaluation of Section 16-111.5B programs. To assist with this consistency and to maximize evaluation efficiency, AIC is seeking approval for the Section 8-103 and 16-111.5B evaluation budgets to be merged and operated as a singular budget. [21]

2.12 Cost-Effectiveness

"(b) For purposes of this Section, the term "energy efficiency" shall have the meaning set forth in Section 1-10 of the Illinois Power Agency Act, and the term "cost-effective" shall have the meaning set forth in subsection (a) of Section 8-103 of this Act.

The term cost-effective set forth in Section 8-103(a) refers to the use of the TRC test. As previously described in Section 2.4 the TRC test was used to determine program cost-effectiveness per the Act. As previously explained AIC provides a TRC analysis of the programs that were bid in this submission the result of which is provided in Table 1 and the detailed analyses is provided in Appendix 7.

[21] Workshop consensus item #11 at 2 states, "Evaluation of the Section 16-111.5B EE programs should be performed by the Section 8-103 EE program evaluators." Consensus item #12 at 2 states, "Evaluation of Sections 8-103 and 16-111.5B EE programs should be coordinated."

Appendix 1: Section 16-111.5B

(220 ILCS 5/16-111.5B)

Sec. 16-111.5B. Provisions relating to energy efficiency procurement.

(a) Beginning in 2012, procurement plans prepared pursuant to Section 16-111.5 of this Act shall be subject to the following additional requirements:

(1) The analysis included pursuant to paragraph (2) of subsection (b) of Section 16-111.5 shall also include the impact of energy efficiency building codes or appliance standards, both current and projected.

(2) The procurement plan components described in subsection (b) of Section 16-111.5 shall also include an assessment of opportunities to expand the programs promoting energy efficiency measures that have been offered under plans approved pursuant to Section 8-103 of this Act or to implement additional cost-effective energy efficiency programs or measures.

(3) In addition to the information provided pursuant to paragraph (1) of subsection (d) of Section 16-111.5 of this Act, each Illinois utility procuring power pursuant to that Section shall annually provide to the Illinois Power Agency by July 15 of each year, or such other date as may be required by the Commission or Agency, an assessment of cost-effective energy efficiency programs or measures that could be included in the procurement plan. The assessment shall include the following:

(A) A comprehensive energy efficiency potential study for the utility's service territory that was completed within the past 3 years.

(B) Beginning in 2014, the most recent analysis submitted pursuant to Section 8-103A of this Act and approved by the Commission under subsection (f) of Section 8-103 of this Act.

(C) Identification of new or expanded cost-effective energy efficiency programs or measures that are incremental to those included in energy efficiency and demand-response plans approved by the Commission pursuant to Section 8-103 of this Act and that would be offered to all retail customers whose electric service has not been declared competitive under Section 16-113 of this Act and who are eligible to purchase power and energy from the utility under fixed-price bundled service tariffs, regardless of whether such customers actually do purchase such power and energy from the utility.

(D) Analysis showing that the new or expanded cost-effective energy efficiency programs or measures would lead to a reduction in the overall cost of electric service.

(E) Analysis of how the cost of procuring additional cost-effective energy efficiency measures compares over the life of the measures to the prevailing cost of comparable supply.

(F) An energy savings goal, expressed in megawatt-hours, for the year in which the measures will be implemented.

(G) For each expanded or new program, the estimated amount that the program may reduce the agency's need to procure supply.

In preparing such assessments, a utility shall conduct an annual solicitation process for purposes of requesting proposals from third-party vendors, the results of which shall be provided to the Agency as part of the assessment, including documentation of all bids received. The utility shall develop requests for proposals consistent with the manner in which it develops requests for proposals under plans approved pursuant to Section 8-103 of this Act, which considers input from the Agency and interested stakeholders.

(4) The Illinois Power Agency shall include in the procurement plan prepared pursuant to paragraph (2) of subsection (d) of Section 16-111.5 of this Act energy efficiency programs and measures it determines are cost-effective and the associated annual energy savings goal included in the annual solicitation process and assessment submitted pursuant to paragraph (3) of this subsection (a).

(5) Pursuant to paragraph (4) of subsection (d) of Section 16-111.5 of this Act, the Commission shall also approve the energy efficiency programs and measures included in the procurement plan, including the annual energy savings goal, if the Commission determines they fully capture the potential for all achievable cost-effective savings, to the extent practicable, and otherwise satisfy the requirements of Section 8-103 of this Act.

In the event the Commission approves the procurement of additional energy efficiency, it shall reduce the amount of power to be procured under the procurement plan to reflect the additional energy efficiency and shall direct the utility to undertake the procurement of such energy efficiency, which shall not be subject to the requirements of subsection (e) of Section 16-111.5 of this Act. The utility shall consider input from the Agency and interested stakeholders on the procurement and administration process.

(6) An electric utility shall recover its costs incurred under this Section related to the implementation of energy efficiency programs and measures approved by the Commission in its order approving the procurement plan under Section 16-111.5 of this Act, including, but not limited to, all costs associated with complying with this Section and all start-up and administrative costs and the costs for any evaluation, measurement, and verification of the measures, from all retail customers whose electric service has not been declared competitive under Section 16-113 of this Act and who are eligible to purchase power and energy from the utility under fixed-price bundled service tariffs, regardless of whether such customers actually do purchase such power and energy from the utility through the automatic adjustment clause tariff established pursuant to Section 8-103 of this Act, provided, however, that the limitations described in subsection (d) of that Section shall not apply to the costs incurred pursuant to this Section or Section 16-111.7 of this Act.

(b) For purposes of this Section, the term "energy efficiency" shall have the meaning set forth in Section 1-10 of the Illinois Power Agency Act, and the term "cost-effective" shall have the meaning set forth in subsection (a) of Section 8-103 of this Act. (Source: P.A. 97-616, eff. 10-26-11; 97-824, eff. 7-18-12.)

Appendix 2: IPA/ICC Section 16.111.5B Workshop Summary

(Provided as a separate attachment)

Appendix 3: Program Descriptions

PROGRAM	Residential All Electric Homes
Objective	To educate both single family and multifamily residential customers about energy use in their homes and to offer information, products, and services to help them save on energy costs. This allows the customer to identify and initiate the process of installing cost-effective energy efficient upgrades and practices. The All Electric Homes program has multiple components and provides another point of entry for customers to take advantage of the entire portfolio of AIC residential energy solutions.
Target Market	All existing single family and multifamily residences serviced by AIC electric.
Program Description	All Electric Homes is an energy efficiency program focused on a whole-house approach. An implementation contractor (prime contractor) will market and administer the program, leveraging the existing AIC program ally network of contractors. The prime contractor will market various services and improvements, including: energy audits; air sealing audits; air sealing; insulation; and HVAC upgrades. To encourage interest, they will highlight free direct-install measures (CFLs, faucet aerators, and high efficiency shower heads). The prime contractor will begin with an energy audit and, based on the audit findings, recommend various energy-efficiency measures found in the AIC electric portfolio. When needed, the prime contractor will coordinate with ActOnEnergy® HVAC program allies to deliver HVAC equipment upgrades as determined by the audit.
Eligible Measures & Incentive Strategy	There will be multiple incentive strategies for the All Electric Homes program, as energy savings can be delivered through multiple avenues, including: • Multifamily HVAC replacement incorporating air source heat pumps and ductless mini-split systems. • Single family direct install of measures, including: air sealing; CFLs; high efficiency shower heads; and faucet aerators (at time of program-provided audit) with a 100% incentive going to the customer. • Single Family HVAC replacement using air source heat pumps and ductless mini-split systems. • Mid-stream incentives paid to subcontractors for installation of follow-up measures, including shell retrofit measures and HVAC replacements. • On the invoice and work scope presented to the customer, the incentives will be displayed as a line item to identify the marked-down price of the audit or retrofit measures via program incentives to contractors. Incentive levels will be guided by a formulaic approach to determine the necessary payback to motivate the market. The single family shell measures will be approximately 80% of total cost and, following completion of shell measures, HVAC replacement within the single family program will be up to 100% to encourage a comprehensive whole-house retrofit. Multifamily HVAC replacements will also be offered at a 100% incentive to units that have previously received shell measure retrofits through the ActOnEnergy program or already meet retrofit guidelines. Incentive levels are not fixed and may change to reflect market conditions and drive market participation.
Implementation Strategy	For the single family program, customer billing analysis will be conducted to identify customers with the greatest savings potential. Likely segments to target include: high-use; all electric customers; and all electric customers previously serviced through the ActOnEnergy HEP (shell measure retrofit) program. Various forms of marketing—including direct mail, community outreach events and telemarketing—will be used to maximize participation.

PROGRAM	Energy Efficiency Kits Program
Objective	To educate targeted Ameren Illinois customers about the benefits of energy efficiency and encourage adoption of multiple, easy-to-do, low-cost energy efficiency measures that produce electric savings.
Target Market	Ameren Illinois homeowners who are residential electric customers with: electric water heaters; a history of greater-than-average electricity usage; and less access to and low adoption of energy efficiency measures.
Program Description	The program will target homeowners in rural areas with less access to and low adoption of energy efficiency measures. The Ameren Illinois electric customer database will be analyzed to identify homes that use electricity for space heating (and presumably water heating as well). Up to 10,000 of these homes will be mailed a free "kit" of low-cost energy efficiency measures with educational materials, installation instructions, and a postage-paid response postcard.
Eligible Measures & Incentive Strategy	The kits will consist of CFLs of various wattage, a high efficiency shower head, a low-flow kitchen sink aerator, a low-flow bathroom sink aerator, and instructions for measuring and adjusting the water heater temperature. The homeowner will be asked to send in a postage-paid postcard to confirm installation of the energy efficiency measures. The measures will be given to the homeowner free of charge. Offering measures with a 100% incentive is expected to drive a high level of participation and should result in very low free ridership.
Implementation Strategy	One prime contractor will implement this program, obtain the energy savings goals outlined in the plan, and adhere to the budgetary constraints identified by Ameren Illinois. Key actions include: • Branding of the all electric program kit, incorporating the ActOnEnergy look and feel and creation of marketing collateral that will be included in the kit. • Analysis of the Ameren Illinois customer database to identify kit recipients according to targeting criteria. • Prime contractor will engage a material supplier to assemble and ship the kits to selected customers. • Information from reply postcards will be aggregated and analyzed to identify installation rates and adoption of energy efficiency measures. Customers may also request more information about other energy efficiency opportunities, which will result in high-confidence leads for other portfolio programs. • The contractor will provide resources in the existing customer contact center to: field inbound calls from kit recipients; assist customers with installation instructions of measures; and direct customers to the appropriate channels to address customer questions or concerns and provide more information about other energy efficiency opportunities. • A tracking database will collect and monitor data regarding customers served, measures installed, incentives processed, and savings achieved. All data will be fully transparent, and Ameren Illinois will have access to this tracking system at its discretion. • The prime contractor will regularly report the program's progress in relation to meeting budget and savings goals. Other reporting will focus on operational details and the progress of field staff. Quarterly program milestones and achievements will be provided to Ameren Illinois for review.

PROGRAM	Residential Multifamily
Objective	Deliver cost-effective conservation services to the multifamily housing market, with a focus on common area improvements.
Target Market	Property owners, managers or management companies (decision makers) of market rate multifamily properties that have three or more units and are served by AIC electric.
Program Description	The program would consist of two distinct segments: Major Measures (MM) and Common Area Lighting (CAL). • The MM segment would focus on shell measure retrofits of buildings, using a local insulation contractor to perform the retrofit work of these buildings. These shell improvements would include air sealing and insulating buildings. QA/QC would be performed by the program implementer to ensure that program guidelines were adhered to. • The CAL segment would consist of common area upgrades and/or swap-outs of inefficient lighting with new, more efficient lighting. The complex owner would be provided material to retrofit existing or install new lighting fixtures, occupancy sensors and exit signs. Complex owners would be responsible for the installation of the fixtures by their own maintenance staff or they could opt to use a third-party contractor. QA/QC would be performed by the implementer to ensure that all material provided to the complex owners is installed according to program guidelines.
Eligible Measures and Incentive Strategy	• The MM segment would offer incentives for air sealing the shell of multifamily buildings. Incentives will be paid based on the total CFM reduction. Insulation incentives will be based on square footage of attic space. Contractors will increase the R value of the insulation from R-9 or less to a minimum of R-38. • The CAL segment would give the complex owners an opportunity to upgrade the existing T-12 lamps and ballast to high output T-8 bulbs and digital ballast. Incandescent exit signs will be replaced with LED signs. Occupancy sensors and programmable thermostats will also be available for retrofit projects. All material will be given at no cost to the complex and installation would be required by the maintenance staff and / or third-party contractor.
Implementation Strategy	Implementation between the two segments of the multifamily program will differ in some ways and be similar in others. The MM segment will depend on contractors to sign an Ally Agreement form, committing to follow program guidelines and work within the existing program structure. The allied contractor would then seek out multifamily buildings in need of this type of retrofit work (air sealing and insulation), market their participation in the program, perform the work; and provide the property owner with the incentive in the form of an instant cost reduction on the final invoice to equal the amount of the incentive. The ally would then submit an Incentive Application (including the invoice and other back-up documentation) to the program for reimbursement. All MM retrofit work must comply with AIC ActOnEnergy® program guidelines which include many Building Performance institute (BPI) guidelines.

PROGRAM	Residential Specialty Lighting
Objective	Increase sales and awareness of ENERGY STAR® certified specialty lighting products, e.g., compact fluorescent lamps that serve specialized purposes, such as dimmable fixtures, three-way bulbs, and candelabra sized lamps. The program may also consider LED specialty lighting that fits the program guidelines.
Target Markets	**Target Markets** • National retailers, including, but not limited to: The Home Depot, Lowe's, Menards and Sam's Club. This target market will continue to leverage existing program partners (big box stores, hardware stores, grocery stores and dollar stores) and expand to new partners such as Costco, as the opportunity presents itself. Within these retailers, there are two types of audiences who will be targeted: ✓ Store procurement personnel / decision-makers ✓ Store sales personnel, including lighting category managers • Homeowners who get their electricity delivered by Ameren Illinois.
Program Description	The program will be implemented by a prime contractor and their subcontractors with significant experience in working with national retail outlets. The contractor will offer incentives to the manufacturing and retail partners to increase sales of qualified specialty lighting. Through these upstream and midstream incentives, the end-user receives a discount on the price of highly efficient, ENERGY STAR certified or better, qualified specialty lighting products. There will be an emphasis on training each outlet's retail sales staff to promote the benefits of efficient lighting as well as point-of-purchase (POP) marketing materials that highlight specialty bulbs to increase consumer awareness.
Eligible Measures & Incentive Strategy	The program's incentives will target the midstream and upstream program partners. Markdowns on qualified products will allow end-use customers to purchase efficient specialty lighting products at a reduced cost while reducing the administrative burden associated with buy-down and POP discounts to the customer.
Implementation Strategy	Ameren Illinois will hire a prime contractor and subcontractors to implement this program. The prime contractor will provide the necessary services to effectively implement the program and obtain the energy savings goals outlined in the Plan while adhering to the budgetary constraints identified by Ameren Illinois. Key implementation aspects include: • Creation of retail POP promotional materials that highlight specialty bulbs as well as custom training, educational, and sales support materials for retail category managers and sales personnel. • The contractor or their subcontractors will have a call center to monitor program activity and assist with any customer discrepancies or questions that may arise. The call center should have knowledgeable staff who can assist and direct customers to the appropriate channels to address customer concerns. • A tracking system database will collect and monitor sales data from the field. The tracking system will monitor rebates processed, segmented by retail partner, geographical locations, and sales volume. The tracking

Small Business Direct Install Program	
Objective	Meet the requirements of SB1652 legislation, thereby increasing small business DS2 customer participation in the Ameren Illinois ActOnEnergy Business Program.
Target Market	The target market includes "untapped" DS2 customers who have limited or no previous participation in ActOnEnergy. In order of projected savings potential, these customers include: restaurants, grocery, auto dealers/convenience stores/gas stations, health services, private schools, membership organizations, banks, and hotels/motels.
Program Description	Eligible DS2 customers will receive energy efficient products installed for no or greatly reduced cost at their facility, as well as an energy report, to show building energy usage and potential savings. Customers who participate in $CORE will also have the option to schedule the installation of further energy efficient products through the Small Business Prescriptive offering.
Eligible Measures and Incentive Strategy	Eligible direct install measures include but are not limited to: CFLs; RWT8 lamp and ballasts; LED replacement kits; delamping; LED exit signs; occupancy sensors; low-flow aerators; pre-rinse sprayers; low-flow shower heads; plug load schedulers and timers; refrigerator/freezer strip curtains; door anti-sweat heaters; refrigerator/freezer door gaskets; refrigerator/freezer automatic door closers; and programmable thermostats.
Implementation Strategy	Ameren Illinois has hired a prime contractor and sub-contractors to implement this program. The prime contractor will provide the necessary services to effectively implement the program and obtain the energy savings goals outlined in the Ameren Illinois Third Party Efficiency Program (Plan) while adhering to the budgetary constraints identified by Ameren Illinois. Key implementation aspects include: • An initial call (made by the Small Business Call Center [SBCC]) would be made to eligible small business participants to gauge their willingness to participate in an on-site visit for the installation of free energy efficiency products, including the development of a free tailored energy report that would include recommended additional energy efficiency upgrades for the facility. Inbound calls (resulting from marketing efforts) will also be encountered. • The SBCC will assign appointments for interested customers with region-specific Small Business Energy Advisors (SBEA) and participating program allies. • The initial on-site visit is expected to take an average of 1-2 hours. SBEAs will collect the necessary facility information to develop the energy report. An exit briefing will be held with the appropriate customer contact to indicate what free energy efficient products were installed during the visit, the approximate annual energy savings attributable to those products, and a review of the energy report indicating the recommended additional energy efficiency upgrades for the facility. The SBEA will also discuss what additional direct install energy efficiency equipment upgrades they may be eligible for from the $CORE program, as well as opportunities through the existing ActOnEnergy program. • If applicable, the SBEA will work with the SBCC to schedule the installation of additional energy efficient direct install equipment while still on site. If the

	customer cannot schedule at that time, the SBCC will provide a follow-up call to schedule this installation. • Additionally, the business card of the SBEA in their territory will be left with the customer, along with information about the ActOnEnergy Business Program, and a 10% bonus coupon to be used when completing their first ActOnEnergy project. If the customer has already completed an ActOnEnergy project the 10% bonus coupon would not be offered. • A separate "Small Customer Prospects" area will be developed in the program database to house information generated from completed site visits (customer information, contact name, copy of energy report, etc.). Necessary follow-up with these customers would be tracked by the SBCC on the Small Customer Prospects Dashboard. • If a date was scheduled, a direct install registered service provider will perform installation of additional energy efficient equipment. • Finally, an automated survey will be sent to the customer after six months and again after 12 months from the delivery of the energy report to determine what energy saving activities (not covered by the larger ActOnEnergy program) had been implemented. • To ensure a clear delineation, energy savings generated by the direct install of energy efficient products and equipment as well as ActOnEnergy "non-claimable energy savings" generated from other recommended actions contained in the energy report would be claimed by the new $CORE program. Any subsequent energy savings incented by the larger ActOnEnergy program would be claimed by that program.
Marketing Strategy	The SAIC Team's marketing strategy is a campaign of targeted printed outreach (email, bill inserts, association publications, etc.) coupled with direct calling by the SBCC.

The following are provided as separate attachments:

Appendix 4: Potential Study

Appendix 5: Third Party RFP

Appendix 6: Third Party Bids (CONFIDENTIAL)

Appendix 7: Detailed Analyses (CONFIDENTIAL)