

TRC Subcommittee Teleconference, May 5, 2015

Topic: Additional TRC Issues

Issue/Response Tracking Document

Updated July 15, 2015

TRC Issue			
Responses (Company/Contact)	<u>Interactive Effects</u> - How are interactive effects being taken into account, for both TRC and savings goal purposes for 8-103, 8-104 and IPA programs? How do the evaluators treat interactive effects?	<u>Dual Baselines</u> - When TRC analysis is performed, on an ex poste basis, are dual baselines accounted for (8-103, 8-104, and IPA programs)? If so, how are they accounted for? <i>See Tab 3 for examples of different baseline approaches.</i>	Follow-up Questions
ADM (David Diebel)	<p>ADM is currently in the process of revising cost effectiveness analyses and reporting for EPY4/GPY1 and EPY5/GPY2. The information given below is reflective of forthcoming cost effectiveness analyses and reporting for EPY4/GPY1 and EPY5/GPY2.</p> <p>In performing impact evaluation of energy efficient measures, ADM applies the following protocols:</p> <p>1) When not using a whole building analysis approach, ADM applies factors to account for heating and cooling interactive effects associated with lighting measures. To obtain these values, ADM references the table found at the beginning of Illinois Statewide TRM section 4.5 (Lighting End Use). The TRM does not address any other interactive effects between measures; therefore, ADM does not apply any additional factors to account for interactive effects between TRM measures.</p> <p>2) When using a whole building analysis approach, ADM does not apply heating and cooling interaction factors or further modify the whole building analysis result to account for interactive effects. This is because the net facility energy impact of the implemented measures is accounted for the whole building analysis method.</p> <p>The application of the approaches described above ensures that the savings inputs into the cost effectiveness analysis account for interactive effects.</p>	<p>ADM's cost effectiveness analyses account for dual baselines for those measures that are identified in the Illinois Statewide TRM as having a dual baseline. This is done by applying a factor to adjust energy savings occurring during each year of the second baseline period to account for the baseline adjustment. Without application of the factor, annual savings for each year of the measure life are equal to the annualized first year energy savings. The application of the factor to the unadjusted savings occurring during the second baseline period ensures that the net present value of lifetime benefits appropriately accounts for the baseline shift.</p> <p>ADM is currently in the process of revising cost effectiveness analyses and reporting for EPY4/GPY1 and EPY5/GPY2. The information given below is reflective of forthcoming cost effectiveness analyses and reporting for EPY4/GPY1 and EPY5/GPY2.</p>	<p><u>Interactive Effects</u> 1. Is Nicor Gas willing to incorporate interactive effects in TRC?</p> <p><u>Dual Baselines</u> 1. How difficult would it be for Nicor Gas and Peoples Gas-North Shore Gas to incorporate dual baselines? Can the calculator be modified to take this into account? 2. Does the new version of E3 make it easier to incorporate dual baselines?</p>
AEG (Sue Nathan)	<p>Interactive effects are included ex post for the following programs: Residential; Multifamily; Res Outreach and Education; Business; and Small Business.</p> <p>For Residential, Multifamily, Res Outreach and Education, and Small Business Programs: Ex post savings for individual gas measures are evaluated and credited with gas savings that exclude any interactive impact from changes in electricity usage.</p> <p>For Business Programs: Business New Construction and Retro-Commissioning often install bundles of gas and electric measures where an electric energy efficiency measure (e.g., EE lighting) will cause an increase in gas consumption for the customer (e.g., space heating). These projects may receive a whole building energy analysis from a design consultant that includes interactive effects. Evaluation ex post savings calculations make separate, independent savings estimates for gas and electric measures that remove the interactive effects. This ensures the electric EE measures do not "penalize" the ex post gas savings.</p>	<p>Ex post savings are based only on the first year of savings, so dual baseline does not apply. If the TRM builds an artificial adjustment into first year savings to reflect a dual baseline or events that happen after the first year of installation, then we use the TRM deemed first year savings with those built in adjustments.</p>	<p><u>Dual Baselines</u> George Roemer stated during the 5/5 call that there are no dual baseline measures currently offered, therefore dual baselines are not included. Reached out to PG-NSG contacts on 7/15 to confirm.</p>
ComEd (Roger Baker)	<p>Cooling interactive effects were included with the 2011-13 plan and for the 2014-16 plan for both goals and cost-effectiveness. Heating interactive effects for all-electric programs were included for both goals and cost-effectiveness. Natural gas heating interactive effects were not included in analyses, primarily due to a limitation in DSMore that ComEd is told will be fixed in the 2015 version.</p>	<p>Yes, dual baselines are accounted for when they are known. Dual baseline is accounted for in DSMore by degrading the annual savings to the new value for the affected measure starting in the year of the baseline change.</p>	<p>NA</p>

<p>Navigant (Rob Neumann)</p>	<p>Both the ComEd Res Lighting and BILD programs have deemed IE factors in the TRM. These factors are applied to estimate the gross kwh and kw (there are two IE factors – one for energy and one for demand). These factors are multiplicative and serve to increase the savings resulting from installing CFLs by attributing the decreased cooling load necessary (since CFLs operate at cooler temps) to the lighting program.</p>	<p>There are no dual baseline issues that I know of for the lighting programs.</p>	<p>NA</p>
<p>Nicor Gas (Hammad Chaudhry)</p>	<p>There are no natural gas measures in the Illinois TRM that create interactive effects by increasing electricity use, and Nicor Gas has not included any measures with electric interactive effects in its ex poste TRC analysis. To the extent that these measures arise in the future, Nicor Gas will include electric impacts in its TRC analyses.</p> <p>For calculating savings goals on joint programs with ComEd, Nicor Gas and its independent evaluator work to ensure that adjustments are made to correct for any natural gas savings reductions created from electric measure with interactive effects. This primarily occurs in the Business New Construction program.</p> <p>The BNC program contractor presents accurate estimates of savings to customers, taking into account the lower gas savings due to interactive effects from electric measures. The program contractor also presents accurate estimates of savings to the utilities, including electric savings, gas savings before interactive effects, and gas savings after interactive effects. Nicor Gas uses the savings before interactive effects in its gas-only TRC analysis (along with measure and program costs allocated to Nicor Gas). Nicor Gas also calculates a multi-fuel TRC by taking electric-only TRC results and adding them to the gas-only results. Our understanding is that ComEd takes into account the interactive effects, because they are driven by the electric measure investments.</p> <p>Regarding interactive effects in other programs, similar effects might come up for the residential new construction program. However, savings are so small in this program that, to date, we have not attempted to quantify the TRC penalty from the interactive effects. Small penalties might also be occurring in the other programs. However, since the vast majority of savings in these other programs are being calculated with TRM algorithms rather than custom calculations, we believe that the impact on TRC calculations to date is negligible. The impact is also conservative, in that the interactive penalty would only decrease the TRC ration on the natural gas side. So as long as the program TRC is above 1.0, there is no need to invest the time required to quantify the interactive effect penalty.</p>	<p>For Nicor Gas, dual baselines come into play only for early replacement measures, where the life of the installed measure extends past the useful life of the existing equipment. In these situations, the TRM calls for savings to be calculated from two separate baselines: from the efficiency of the existing equipment for the remaining life of the existing equipment, and then from the efficiency of the new federal standards for the remaining life of the efficient measure.</p> <p>To date, Nicor Gas has treated these measures conservatively in its ex-poste TRC analyses, by limiting savings lifetimes to the remaining life of the existing equipment, and calculating savings from the baseline of the existing equipment. Since measures pass the TRC analysis even using these conservative assumptions, Nicor Gas did not take the extra, more complicated step of calculating the additional long-term savings that arise from using the dual baseline.</p> <p>In the future, Nicor Gas may incorporate dual baselines into its savings and TRC calculations for these measures.</p> <p>Method 4 captures the method Nicor Gas uses to calculate savings for measures with dual baselines. We calculate incremental costs to reflect the PV difference between the full installed cost of the efficient equipment today compared to the full installed cost of baseline equipment in the future. As we mentioned earlier, this is a conservative approach, capturing full costs but only a portion of the lifecycle energy savings. In the future we may take the extra step to capture the additional lifecycle benefits; especially in cases where TRCs are below 1.0 using the conservative method.</p>	<p>NA</p>
<p>Opinion Dynamics (Mary Sutter)</p>	<p>We do not include therm penalties for savings goal purposes, but do include them for TRC calculations. We include electric penalties if there is electric heating for both savings goal purposes and TRC calculations.</p>	<p>For the residential HVAC program, we use a dual baseline whereby the federal baseline kicks in on the 7th year of the EUL. The first six years of the measure use the existing equipment to determine savings. Therefore, the savings goals (which are based on first year savings) are not based on the dual baseline, but the TRC does include application of the secondary baseline when calculating savings over the EUL of the equipment.</p>	<p>NA</p>