

Illinois EE Stakeholder Advisory Group Small Group Meeting: Evaluation Questions

Friday, November 13, 2020

2:00 – 4:00 pm

Teleconference

Attendees and Meeting Notes

Meeting Materials

- Meeting Page: [Friday, November 13](#)
- [Agenda for Friday, Nov. 13 Small Group Evaluation Meeting](#)
- [Evaluation Treatment of Business Closures \(Joint Presentation by Opinion Dynamics and Guidehouse\)](#)
- [Evaluation Treatment of Heating Penalties and Negative Savings \(Guidehouse Presentation\)](#)
- *Background Materials*
 - [Guidehouse and Opinion Dynamics Memo: Treatment of Business Closure in Estimating Lifetime Savings \(Sept. 10, 2020\)](#)
 - [Guidehouse Memo to ComEd: Treatment of Negative Electric and Gas Savings by Evaluation \(Aug. 4, 2020\)](#)

Attendees (by webinar)

Celia Johnson, SAG Facilitator

Greg Ehrendreich, Midwest Energy Efficiency Alliance (MEEA) – Meeting Support

Charles Ampong, Guidehouse

Matt Armstrong, Ameren Illinois

Tyler Barron, Environmental Law & Policy Center

Kathia Benitez, Franklin Energy

Rick Berry, Guidehouse

Erin Daughton, ComEd

Leanne DeMar, Nicor Gas

Allen Dusault, Franklin Energy

Jeff Erickson, Guidehouse

Jim Fay, ComEd

Jason Fegley, Ameren Illinois

Scott Fotre, CMC Energy

Omayra Garcia, Peoples Gas & North Shore Gas

Jean Gibson, Peoples Gas & North Shore Gas

Kevin Grabner, Guidehouse

Randy Gunn, Guidehouse

Amalia Hicks, Cadmus Group

Hannah Howard, Opinion Dynamics

Anna Kelly, Power Takeoff

John Lavalley, Leidos

Bruce Liu, Nicor Gas

Thomas Manjarres, Franklin Energy

Nishant Mehta, Guidehouse

Abigail Miner, IL Attorney General's Office

Fernando Morales, Ameren Illinois

Jennifer Morris, ICC Staff
Chris Neme, Energy Futures Group, on behalf of NRDC
Rob Neumann, Guidehouse
Victoria Nielsen, Applied Energy Group
Eric O'Neill, Michaels Energy
Carly Olig, Guidehouse
Randy Opdyke, Nicor Gas
Darshan Pather, ICF
Arlis Reynolds, Opinion Dynamics
Zach Ross, Opinion Dynamics
Kristol Simms, Ameren Illinois
Grant Snyder, IL Attorney General's Office
Jacob Stoll, ComEd
Mark Szczygiel, Nicor Gas
Harsh Thakkar, Franklin Energy
Andy Vaughn, Leidos
Ted Weaver, First Tracks Consulting, on behalf of Nicor Gas
Shelita Wellmaker, Ameren Illinois
Jim Dillon, Ameren Illinois
Christina Pagnusat, Peoples Gas & North Shore Gas
Arvind Singh, DNV-GL
Chris Vaughn, Nicor Gas
Stacey Paradis, MEEA
Andrea Salazar, Michaels Energy
Cate York, Citizens Utility Board
Rick Tonielli, ComEd

Meeting Notes

Action items are indicated in **red font**.

Opening & Introductions

Celia Johnson, SAG Facilitator

Purpose of meeting:

1. To discuss evaluation treatment of business closures, an issue raised during a June SAG meeting to discuss COVID-19 evaluation impacts.
2. To discuss questions raised by Guidehouse on treatment of negative savings by evaluation.
 - a. Memo circulated had 8 questions on Negative savings, but 4 noted in the agenda in red will be discussed today.

Background

- Business closure issue was raised during June small group meeting to discuss COVID-19 evaluation impacts. Follow up discussion today with a memo and potential approaches. Evaluators request resolution by end of 2020.
- Evaluation treatment of heating penalties and neg savings: Guidehouse memo to ComEd includes 8 questions that arose while evaluating 2019 ComEd programs. Memo described historical treatment and seeks future direction. Narrowed down to 4 questions to discuss today, the rest can be discussed in 2021. Two of the remaining items for 2021

are TRM questions, others can be discussed by SAG in the future. Guidehouse requests prioritizing gas penalty question resolution by end of year 2020.

Evaluation Questions: Business Closures

Zach Ross, Opinion Dynamics; Jeff Erickson & Rick Berry & Kevin Grabner, Guidehouse

- Purpose: To discuss the treatment of business closure in estimating lifetime savings; answer questions and feedback; determine next steps.
- Basic issue is that in some cases evaluators have discovered that businesses have closed during a program year. For example, during a site visit we learn a business is closed. Open question since 2015 and no consensus to date. This question has not risen to the top because it is uncommon. During SAG discussion in June on potential impacts of COVID the question came up again. Business closures could be more likely as a result of pandemic & economic downturn.

Open questions:

1. What is correct policy treatment of business closures on regular basis?
2. Should the same treatment be applied to the COVID environment we are in, or similar to the CPAS discussion should there be a separate treatment?

Potential approaches:

- 1) Treat business closure as persistence issue
 - a. Proposed by Guidehouse previously
 - b. Verify savings as installed and calculate with TRM EUL – EULs should capture persistence effects including business closures
 - 2) Verify savings for time equipment was in service
 - a. Prorate for only in-service time of equipment; decrease to zero after closure
 - b. Not consistent with TRM (e.g. treatment of December 31 install treated as full first year savings)
 - c. No further checks beyond initial verification – if it closed 2 years from now, CPAS would be locked in on that project
 - 3) Assign zero savings to all closed businesses
 - a. Would not count some savings that did occur
 - 4) Estimate lifetime savings based on probability of business reopening
 - a. Under same or different owner
 - b. Estimated timeframe for reopening
 - c. Substantial degree of evaluation judgement because it wouldn't be going back and measuring whether it reopened.
- When is a business closed?
 - For any approach other than #1, would have to determine in what case a business is closed.
 - Permanent vs temporary closure
 - Questions to think about: Does it have zero operating hours? Is it planning to reopen? Any verification of closure besides unable to reach?

If in a tenant space, are the savings still eligible? What about “once COVID is over” reopening?

- Decision tree proposal from OD team – set up some questions to ask as course and take actions as dictated by that. Slide is a conceptual model, not sure these are the right questions.

[Ted Weaver] There could be a secondary market for equipment – business might go bankrupt and someone else uses the equipment. Equipment didn't go out of business.

[Zach Ross] We would have to be very careful deciding what we would/wouldn't be willing to count. E.g. New rooftop unit in a strip-mall will be used by next tenant, but lighting perhaps wouldn't if space is re-engineered. This could be treated differently by measure.

[Zach Ross] If equipment is not installed, that is typically a zero. Some qualified cases in custom programs, something not fully commissioned or operating up to spec, that has happened. And we give them time to fix the issue and then go through the evaluation at that point. If it is a prescriptive project and nothing is installed, that's a zero. That's pretty rare from personal experience. If a business closes after equipment is installed and working, that's the real discussion here.

[Chris Neme] Do EULs in the TRM partially account for some equipment dropping out of use at different points of its life?

[Rick Berry] There was research a few years ago on EULs and accounting for business closures. This wasn't an explicit concern then. May be wrapped up in some of them, but the data sources for some of the technologies are weak to begin with. In reality, some of them probably have no relevant information available. It's probably a rounding error in the end. This wasn't one of the goals of the EUL research. Only 2 thermostat measures had persistence identified in TRM – 8-year life with 50% persistence makes it 4-year EUL.

[Zach Ross] The evaluator memo comments on this – there needs to be more consistency in what goes into EULs if we go that route.

[Chris Neme] I know that residential EULs for equipment come from DOE documents that estimate average lives based on market data on distribution of years over which equipment turns over. Some die in year one, some last longer, etc. Even if persistence isn't explicit in the EULs in the TRM, my guess it that it is implicitly embedded. May be a small subset for which this is the most important.

[Chris Neme] If these are our range of options to get to the closest estimate of lifetime savings, #3 would understate, #2 would likely as well; approach #1 would probably overstate savings. Approach #4 would maybe be most accurate but the hardest to be confident in.

[Jim Dillon] From an EM&V perspective, what is the normal % of businesses that you would see closed?

[Zach Ross] I don't think we've really encountered it in the field. We have seen a very small percent in phone surveys. Because EE upgrades perhaps help a business not immediately close, I hope.

[Jeff Erickson] We have seen a few cases but this is uncommon. It's not uncommon to not get an answer to our survey, but we just count that as a non-response. The reason we brought it up is because we were concerned, we might see it due to COVID-19 and want to get ahead.

[Chris Neme] Given that and the challenge of #4, could evaluators think about another options? A default adjustment like we use for early replacement. For example, an assumption that 2/3 of closed business equipment will be reused.

[Kristol Simms] There are two things to consider – is it good policy to identify an approach that is going to be punitive based on the results of COVID, which is separate from the highly technical question that most of this conversation has been about answering. Concerned about whether utilities can manage risks around business customers that do want to participate.

Follow-up items:

1. Add a potential approach #5, suggested by Chris Neme.
2. If an approach other than #3 is selected, may need to revisit the IL-TRM Policy Document which describes that equipment is supposed to be “installed and operating.”
3. Potential approaches for business closure will be circulated for review and comment (10 business days).

Evaluation Questions: Negative Savings

Jeff Erickson & Rick Berry, Guidehouse

Purpose: To discuss Guidehouse questions on the treatment of negative electric and gas savings by evaluation for ComEd; answer questions; determine next steps

Questions for discussion (numbers correspond to questions in the Guidehouse memo to ComEd):

3. *How should evaluation treat projects that result in negative savings due to custom analysis?*
 4. *How should evaluation treat projects that result in negative savings due to actions taken to meet code?*
 6. *How should evaluation treat electric heating penalties? Should they continue to be added to the verified savings?*
 7. *How should evaluation treat gas heating penalties with respect to converted gas savings? Should these be netted out at the project level, program level, portfolio level, or at all?*
- This discussion is on heating penalties and negative savings values. Will discuss heating first because it has potentially greater impact than the neg savings questions. “Heating penalty” means negative secondary impacts from a measure, accounted for in TRC calculations but not necessarily goal attainment. “Negative savings” are a correctly calculated value that is negative.

Question: How should evaluation treat gas heating penalties?

- Lighting is 65% of ComEd portfolio; we don't capture heating system fuel type for most programs. Generates a lot of heating penalties. In summary report, ComEd produced 16.6M therms of net penalties. Conversion of 10% is 3.5 M therms. Traditionally

Guidehouse has not counted gas heating penalty against electric program savings. How should evaluation handle the negative gas balance of EE portfolios?

- Guidehouse wants clarification that what we are doing is in accordance with intentions. Guidehouse would like this added to an IL policy document, to remove any ambiguity in the future.

[Zach Ross] This is always the way Guidehouse has treated it for ComEd. Ameren has run dual-fuel programs. ODC does not count negative gas savings for goal attainment. If Ameren is required to bear gas negatives against its gas goals, then it is punitively different for them than all the other single-fuel utilities.

[Chris Neme] With respect to counting toward goals, these are accounted for in cost-effectiveness, correct?

[A: Yes]

[Ted Weaver] The goals were not set with these penalties in mind.

[Chris Neme] The reason FEJA passed fuel savings equivalents was the recognition that the gas utility budgets were less robust and that wasn't changing in FEJA, and that there was a desire not to see multiple-fuel programs disappear because the electric utility had funding and gas utility didn't. Penalizing would be inconsistent with intent of statute. The way it is being done now is consistent with the intent.

Question: How should evaluation treat electric heating penalties?

- Same question on electric heating scenarios. This is much less common. Assume gas if unknown in TRM, and less common in general.
- Should it then be applied in this case, if it is part of the same fuel? Should we still be not including those in the verified savings? There is some inconsistency in the TRM about where heating penalties come into play (e.g. lighting algorithm has a waste heat factor but not a negative heating effect – but residential heat pump water heater has both interactive heating and cooling effects). In cases where this occurs, lighting programs most common, have been netting out the penalties in the verified savings.
- Guidehouse includes the heated penalties, for electric cooling benefits. Excluded for other fuel impacts.

[Jennifer Morris] In early discussions of interactive effect 5-7 years ago, we discussed that program administrators have control over the lighting and should apply to electric goals. Shouldn't penalize gas utilities from meeting their goals.

Next step: Evaluators will draft proposed resolution and circulate for review/comment.

Question: How should evaluation treat negative savings found in custom analysis?

- Classic example is energy management systems project – historically has generated very volatile results from evaluation. EMS for ComEd is prescriptive and on the gas side it has been custom. In either case it isn't uncommon to get a negative savings result from an EMS project – a couple a year on each side.

- There are a lot of factors – some limitations on the prescriptive measure post installation data becoming limiting. For example, not having 12 months of post-installation usage. Granular AMI data helps.
- On gas side, limited by the lack of granularity (only monthly usually). Presents some limitations to the analysis. Usually, historically have not counted negative savings against the programs because we understand the limitations of the analysis. May not know occupancy percentages of multi-unit buildings, occupant requirements for HVAC changing, etc. Expect that if you are commissioning an EMS and replacing dampers and fixing ventilation up to code, may be ventilating more and then use more energy in that case. Basically, our understanding is that we don't have a great reason why energy use would increase but we do know that energy didn't *decrease* as a result. That's why we use zero rather than a negative result.

Chris Neme: It sounds like negative savings should be counted as verified savings. When evaluators identify negative savings, they default to zero unless there is a reason to think the design/install caused savings to go negative.

Jennifer Morris: Perhaps EMS projects need a closer look in the future.

Chris Neme: This may merit further discussion outside of the 'how do we do this now'; a 'decision fork' for evaluators?

Zach Ross: There are implementation discussions that need to happen; that is outside of the evaluation Q being discussed today.

Next steps:

- Evaluators will draft proposed resolution and circulate for review/comment.
- Potentially schedule a future discussion on the implementation question raised related to EMS projects – should the utilities not claim savings until enough months have passed after the system was installed? Add to the list for 2021.

Question: How should evaluation treat negative savings resulting from code compliance?

- Example of what happens if contractor turns fan mode from intermittent to continuous during occupied period. Bring it up to code but increase meter energy use. Or fixing dampers that were stuck closed. In historical cases, GH has not counted the negative value – has put it to zero. Don't want to disincentivize program or contractors to do those things.

[Chris Neme] Should it be treated as positive in these cases? Normalize to baseline where code is being complied with and count positive under those circumstances.

[Andy Vaughn] How Ameren Illinois implemented, assumed continuous during occupancy as the baseline – assume baseline of code for the energy savings of the improvement. Easier on prescriptive. Trying to find the baseline on custom is harder from the evaluation standpoint.

[Chris Neme] Absolutely should not be treated as negative. Zero is conservative. Would support counting them from code baseline.

[Rick Berry] It's hard with the RCx and EMS projects, to determine the scenario that doesn't exist. Zero in those cases. Would prefer the setting the baseline as code.

[Zach Ross] Lines up with what Chris and Rick said – evaluators can try to do what Chris said and it could be tough in some situations, but as long as we have that guiding idea of what we want to get to.

Next step: Evaluators will draft proposed resolution and circulate for review/comment.

Closing & Next Steps

Celia Johnson, SAG Facilitator

- **Business Closure Follow-Up:**
 - Add a potential approach #5, suggested by Chris Neme.
 - If an approach other than #3 is selected, may need to revisit the IL-TRM Policy Document which describes that equipment is supposed to be “installed and operating.”
 - Potential approaches for business closure will be circulated for review and comment (10 business days).
- **Negative Savings Follow-Up:**
 - Evaluators will draft proposed resolution and circulate for review/comment (10 business days).
 - Potentially schedule a future discussion on the implementation question raised related to EMS projects – should the utilities not claim savings until enough months have passed after the system was installed? Add to the list for 2021.