Optimal ENERGY Integrated Energy Resources

Interactive Effects: DRAFT AG Proposal

For SAG Discussion

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On behalf of IL AG

Introduction

- Types of Effects
  - Measure Dependent
  - Package Dependent
- Uses
  - Savings Claims
  - TRC Cost-Effectiveness Calculations
- Categories of potential different Treatment
  - Pure Prescriptive
  - Package Prescriptive
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  - Joint vs. Single Fuel Programs
- Proposals

Types of Effects

- Measure Dependent
  - Interactions that always exist from a measure independent of any other measures installed
  - e.g., Waste heat penalty and cooling bonus for interior lighting

- Package Dependent
  - Interactions between measures dependent on the combination of measures installed
  - e.g., combined furnace and insulation save less than sum of each individually

Uses of Interactive Effects

- Savings Claims
  - Should have consistent approach statewide
  - A PA should not be penalized for cross-fuel impacts for which it has no control
  - Consistency across measures/end uses/fuels as much as possible
    - Establish policies that will allow and encourage cost-effective fuel switching/CHP
    - Put all EE resources on an equal footing
    - Avoid perverse incentives
    - Seek simplicity and minimize administrative burdens
  - Approaches should take advantage of data and systems already in place, and avoid new significant administrative burdens
- TRC Cost-Effectiveness Calculations
  - Important to count all known and knowable benefits with reasonable accuracy
  - Use impact of physical units, either positive or negative (where appropriate)—count all as benefits
  - Can diverge from savings claims

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Categories For Potentially Different Treatment

- Pure Prescriptive
  - Should follow TRM
  - TRM should capture all relevant measure-dependent effects (generally already does, but not always counted when cross fuel)
  - Ignore package-dependent effects
- Package Prescriptive
  - Should follow TRM, and capture all relevant measure-dependent effects same as pure prescriptive
  - TRM should capture all relevant expected package-dependent effects
- Custom
  - Custom site-specific calculations should estimate net impacts on each fuel

Categories For Potentially Different Treatment, cont.

- Joint vs. Single Fuel Programs
  - Consistency across state is desirable, as much as reasonable
  - If joint programs/projects, consideration for each PA to claim net impacts of project, including measure dependent effects
  - Joint custom projects should identify overall net impacts
  - Single fuel programs should account for cross fuel impacts, but use a BTU equivalency approach to adjust primary fuel net savings – hold non-participating PA harmless
  - Discussion issue:
    - should joint and single fuel programs treat cross fuel measure dependent measures the same?
    - If not, does this create inconsistencies with DCEO vs. utilities?

Proposal – Savings Claims – Measure Dependent

- Prescriptive
  - Use whatever is in TRM – established process to establish individual measure impacts
  - Strive to estimate net overall measure impact on society, using a BTU equivalency approach
  - Adopt current CHP BTU equivalency approach
- Benefits
  - Simple process, just track what is in TRM
  - BTU equivalence removes current biases and puts all measures on equal footing with consistent treatment – avoids perverse incentives to misallocate resources
  - Ensures we recognize net overall impact if a measure causes increase in another fuel (current approach is asymmetric, in that we tend to count benefits but not costs)
  - Provides platform for any future measures including fuel switching

Proposal – Savings Claims – Measure Dependent

- Custom
  - Analyze entire project in a whole building integrated fashion, using appropriate engineering or modeling methods
  - Account for all estimated net impacts for all fuels
  - For Single PA/Fuel project, strive to estimate net overall measure impact on society, using a BTU equivalency approach, crediting net impact 100% to delivery PA
  - For joint PA/Fuel project, estimate net gas and electric impacts in physical units and claim by respective PAs
  - Adopt current CHP BTU equivalency approach where applicable
- Benefits
  - BTU equivalence removes current biases and puts all measures on equal footing with consistent treatment – avoids perverse incentives to misallocate resources
  - Provides platform for any future measures including fuel switching
  - Relies on existing savings estimation methods

Proposal – Savings Claims – Package Dependent

- Pure Prescriptive
  - Ignore all package dependent effects – assume each measure can and often is installed individually – follow TRM
- Package Prescriptive
  - TRM directs as with pure prescriptive, but…
  - If typical or assumed that participants will usually/always install a known package, the TRM should account for overall effects (e.g., a DI program that provides multiple interacting measures as part of a default package)
- Benefits
  - Straightforward – continue to be driven by whatever is approved in TRM
  - Allows for capturing known and expected interactions by default if significant for standard measure packages

Proposal – Savings Claims – Package Dependent

- Custom
  - By definition, these will be captured based on whole building project savings estimation approach.
  - If single PA/Fuel, then all net impacts claimed by participating PA, any cross fuel impacts use BTU equivalency
  - If joint PA/Fuel, then actual physical units of each regulated fuel are captured (oil or other non-regulated impacts use BTU equivalency).
- Benefits
  - Puts all measures on equal footing
  - Protects non-involved PA, but still ensures overall net energy impact to society is captured.
  - Consistent with current savings estimation activity avoids new burdens

Proposal – Cost-Effectiveness Analysis

- All reasonably quantifiable costs and benefits
  - Gas and Electric impacts in physical units, applied to avoided costs
  - Other energy impacts use physical units if avoided costs established (e.g., oil), use BTU equivalency when no avoided costs exist.
  - Prescriptive follows TRM – in most cases only captures measure dependent effects
  - Custom screen overall project net impact
- Count all energy impacts as benefits
  - Both positive and negative energy impacts treated as benefits (a cost is a “negative benefit”) to provide consistency of BCR numbers
- Not necessarily consistent with savings claims, but should strive to include all reasonably quantifiable benefits. Impacts should be tracked regardless of whether counted in savings claims.

Interactive Effects Summary Table

Interactive Effect	Count toward Savings Claims - Prescrip-tive	Count toward Savings Claims - Package Prescriptive		Count toward Savings Claims -- Custom		Count for TRC - Prescrip -tive	Count for TRC - Package Prescriptive		Count for TRC - Custom	
		Joint	Single Fuel	Joint	Single Fuel		Joint	Single Fuel	Joint	Single Fuel
Measure Dependent	Y when in TRM BTU equivalence	Y when in TRM Physical Units	Y when in TRM BTU equivalence	Y Physical Units	Y BTU equivalence	Y Physical Units	Y Physical Units	Y Physical Units	Y Physical Units	Y Physical Units
Package Dependent	N	Y when in TRM Physical Units	Y when in TRM BTU equivalence	Y Physical Units	Y BTU equivalence	Y Physical Units	Y Physical Units	Y Physical Units	Y Physical Units	Y Physical Units

Notes: Where savings claims use physical units, they should still use BTU equivalence for non-regulated fuels.

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