

A utility worker wearing a yellow safety vest and a yellow hard hat with the Ameren logo is working on a power line tower. The worker is looking off to the side with a focused expression. The background shows other utility structures and a clear sky.

Ameren Illinois Energy Efficiency Program Advanced Rooftop Controls Pilot

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Advanced Rooftop Controls (ARC) Pilot

Webinar Agenda

- Introduction to ARC
- Value of ARC
- Hurdles to ARC deployment
- Technical description of ARC – and what is NOT ARC
- Details of the Pilot Program
- Examples – studies
- Suppliers
- Questions?

Introduction to ARC



Introduction to Advanced Rooftop Controls

- Install controls to operate rooftop HVAC units more efficiently
- Demand-controlled ventilation (DCV) and supply fan variable frequency drive
- Specific constraints on eligible sites and systems (more details later)
- Off-the-shelf packaged products are available and eligible
- Results in fan, cooling, and heating energy savings
- Lots of potential sites to install



Value of ARC



Value of Advanced Rooftop Controls - Site



- Customers – Energy Savings



- Contractors – Sales/ Service Opportunities



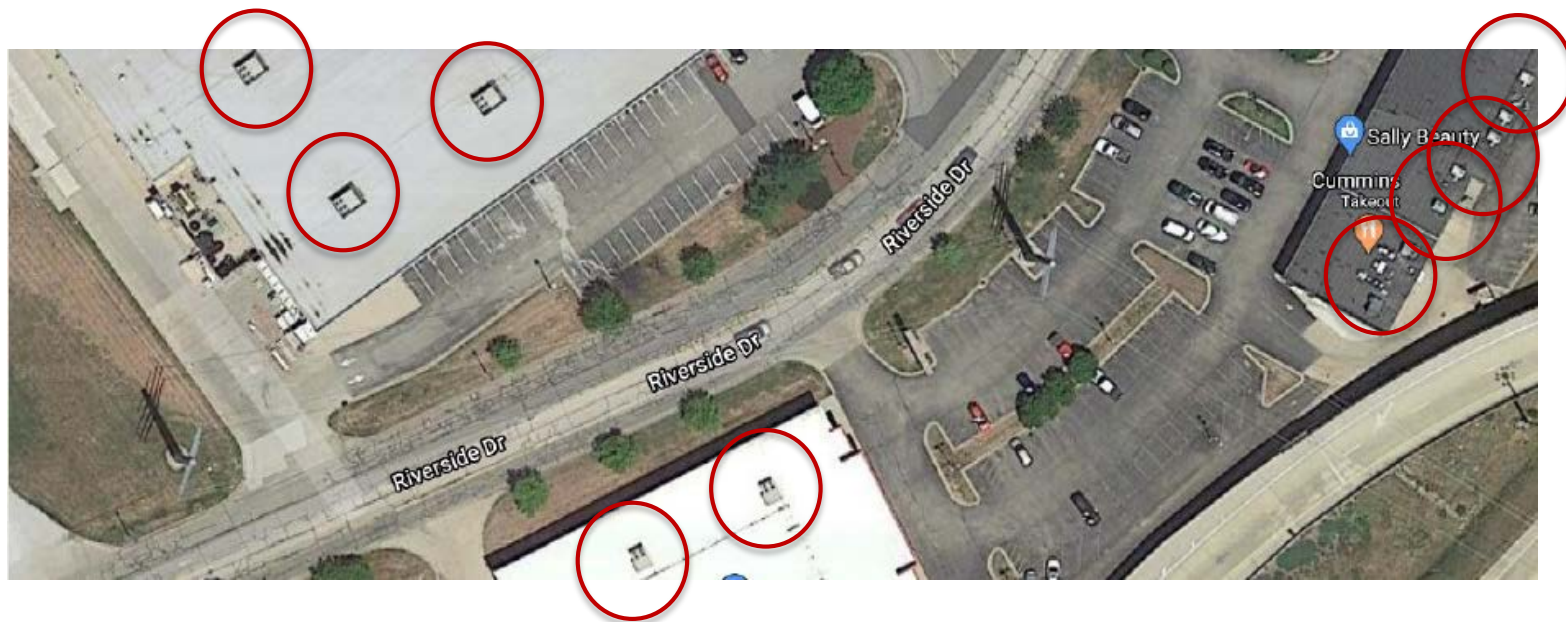
- Utility – Incentives Efficiency Goals





Value of Advanced Rooftop Controls - Territory

Potentially large number of eligible sites that could benefit



Hurdles to ARC Deployment



Hurdles to ARC Deployment

- Awareness of the opportunity
- Complicated eligibility
- Identifying products to install
- Building inventory
- Training installers
- Unknown costs

Eligibility Criteria:

- Existing packaged unit rooftop unit (cannot be new installation)
- Serves single HVAC zone with existing constant volume supply fan
- RTU must have integrated economizer, either functional or replaced at time of install
- Existing unit must not be replaced with the new controls
- Existing unit must not be replaced with the new controls
- New controls must meet requirements
- Cannot be combined with other units

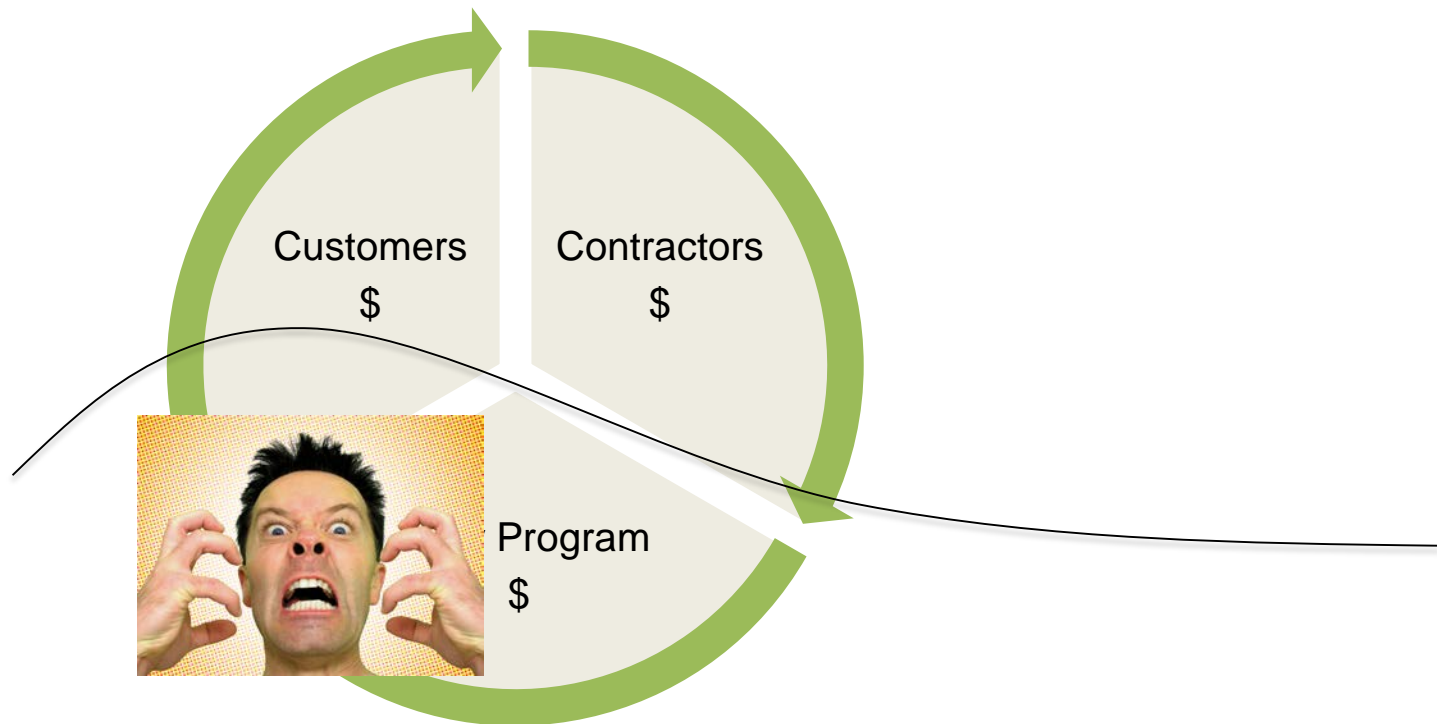




Vision for ARC Pilot Program



Pilot Program



Technical Description of ARC



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- Existing packaged unit rooftop unit (cannot be new installation)
- Serves single HVAC zone with existing constant volume supply fan
- RTU must have integrated economizer, either functional or repaired at time of install
- Existing unit must not have Demand Control Ventilation (DCV) functionality
- Existing unit must not have fan speed controls
- DCV must be installed with the new controls
- Fan speed controls and VFD must be installed with the new controls
- New controls must reduce fan speed during unoccupied periods to minimum ventilation requirements
- Cannot be combined with Measure BPH18 – Demand Controlled Ventilation



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What is NOT ARC



- Opposite of eligibility criteria
 - Multi-zone system
 - New Installation of RTU
 - Existing DCV
 - Existing VFD
 - No (or failed) economizer
- Scheduling/programmable thermostat
- Building Automation System
- SAT reset

Many of these projects are great opportunities and may be eligible for other standard or custom incentives through the program - just not the ARC measure



Details of the Pilot Program



Pilot Program Details



GOALS

- Raise awareness
- Increase Incentives (temporary)
- Engage stakeholders
- Ask you what else we can do to help increase installations
- If you have questions, feel free to reach out to me or your Energy Advisor

Total of \$300/ton incentives offered

- Must be installed by **12/31/21** to qualify for increased incentives
- If pre-approval is required, must be pre-approved before **9/30/2021**
- The plan is for incentives to revert to \$200/ton on **1/1/2022**

Example Project

Example Project*

- Assume eligible 10-ton unit
- Incentive \$3,000
- Cost* ~\$3,900
- Bill Savings* ~\$725/annually
- Payback w/ incentive* ~1.25 years



****All values are approximate, estimated by averaging over many building types and use cases. Based on studies that may not reflect impacts observed at a specific site***

Homework

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Installers:

- Consider customers who may benefit
- Explore specific technologies you may want to learn more about
 - Look for off-the-shelf package units that meet the eligibility requirements

Customers:

- Consider whether your site qualifies





QUESTIONS?

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