



June 2012

Premium Rooftop-Unit Retrofit

Emerging Technology Field Test Participation Details

Purpose of Field Test

The purpose of this field test is to gather data on Premium Rooftop-Unit (RTU) Retrofits in order to develop a cost-effective measure.

Emerging Technology

Premium RTU Retrofits include supply fan, ventilation and economizer control changes, as well as web-based monitoring and other control features.

Requirements & Specifications

Existing RTUs must have the following features/characteristics:

- Unitary
- Single-zone
- Existing economizer
- Greater than five tons of cooling capacity
- Serving commercial facilities

Premium RTU Retrofits must have the following features/characteristics:

- Supply fan control using variable speed drive (VSD), multi-speed or cycling
- Demand-controlled ventilation
- Digital, differential, integrated economizer control
- Minimum one-year warranty on parts and labor
- RTU true-power monitoring with a maximum three-minute sampling interval and three-month minimum data storage capacity

- The ability to either (1) simulate baseline operation and be operated for up to four months of weekly cycling between “baseline mode” and “premium retrofit mode” or (2) facilitate pre-retrofit and post-retrofit metering of up to three months with daily temperatures ranging between 50 and 80 degrees. (BPA may choose to enable system monitoring and other metering, at BPA’s expense.)

BPA is currently aware of the following manufacturers/products that meet the above requirements, but new products may become available: Transformative Wave Technology’s Catalyst; Honeywell JADE controller with VSD and speed controller; or KMC FlexStat.

Though not required, BPA is interested in other control features that provide greater electricity savings and improved performance, including web-enabled, real-time parameters and fault diagnostic detection.

Customer must perform the following:

- Follow the requirements of the Limited Availability Emerging Technology Field Test Projects section of the Implementation Manual.
- Complete online surveys and facilitate survey completion by installing contractor and end user.
- Provide billing data to BPA.
- Facilitate BPA site access.
- Facilitate access to M&V data for BPA.



Savings & Reimbursement

The Premium RTU Retrofit savings and reimbursement are calculated according to the commercial, retrofit custom projects reimbursement rate of \$0.20/kWh. The following table shows the resulting reimbursement per unit.

Occupied hours per year	Savings (kWh/ton)	Reimbursement (\$/ton)
2,000-4,000	600	\$120
4,001-8,760	1,000	\$200

Participation Limits

This field test is limited to 75 Premium RTU Retrofits. Customers who wish to participate must complete and submit the online **ET Field Test request**. BPA will update the website monthly with the number of approved requests.