

# C&I Energy Efficiency Program Guidelines

## Data Center Energy Efficient Equipment

Following is the minimum information required for energy conservation measures (ECM's) related to data center equipment. Projects applying for incentives related to data center or computer/server rooms must comply with all applicable requirements listed below.

### 1. Uninterruptible Power Supplies (UPS)

All UPS units must be Energy Star rated and the effective average efficiencies must be greater than or equal to the efficiencies listed in the table below.

Rated Output Power (Watts)	Voltage and Frequency Dependent (VFD)	Voltage Independent (VI)	Voltage and Frequency Independent (VFI)
1,500 <P<10,000 Irrespective of communication capabilities	0.970	0.967	$0.0099 \cdot \ln(P) + 0.815$
P > 10,000 without communication capabilities	0.970	0.950	$0.0099 \cdot \ln(P) + 0.805$
P > 10,000 with communication capabilities	0.960	0.940	$0.0099 \cdot \ln(P) + 0.795$

### 2. UPS Rectifiers

All rectifiers must exceed the efficiencies listed below at the corresponding load factors to be eligible for incentives. Efficiency values should be linearly interpolated for load factors that are not listed in the table below.

Load Factor (%)	0	10	20	30	40	50	60	70	80	90	100
Efficiency (%)	74.50	81.60	88.06	91.35	92.34	92.75	92.87	92.91	92.81	92.62	92.35

### 3. Computer Room Air Handler (CRAH)

The efficiency of all CRAH units must be less than **0.39 watts/CFM** to be eligible for incentives.

### 4. In-Row/In-Rack Cooling Equipment

The efficiency of all In-Row/In-rack cooling equipment must be less than **170 watts/ton** to be eligible for incentives. The overall efficiency shall include all fan power and all pump power required for the operation of the cooling equipment.

## 5. Electronically Commutative Plug Fans (EC Plug Fans)/VFD Retrofit

All EC plug fan retrofits and VFD on supply fans are eligible for incentives provided there is no existing VFD installed on the fans.

## 6. Server Virtualization/Consolidation (non-cloud based only)

All server virtualization projects are eligible for incentives as long as they are not cloud-based. If new servers are installed, they must be energy star rated. Estimated peak kW savings must be at least 5 kW to be eligible for incentives.

## 7. Computer Room Air Conditioner (CRAC)

All CRAC units must exceed the efficiencies listed in the table below to be eligible for incentives. All efficiencies shall be in accordance with the NYCECC.

Equipment Type	Net Sensible Cooling Capacity	Minimum SCOP -127 Efficiency Downflow Units/Upflow Units
Air Conditioners, Air Cooled	< 65,000 Btu/h	2.20/2.09
	≥ 65,000 Btu/h and < 240,000 Btu/h	2.10/1.99
	□ 240,000 Btu/h	1.90/1.79
Air Conditioners, Water Cooled	< 65,000 Btu/h	2.60/2.49
	≥ 65,000 Btu/h and < 240,000 Btu/h	2.50/2.39
	□ 240,000 Btu/h	2.40/2.29
Air Conditioners, water cooled with fluid Economizer	< 65,000 Btu/h	2.55/2.44
	≥ 65,000 Btu/h and < 240,000 Btu/h	2.45/2.34
	□ 240,000 Btu/h	2.35/2.24
Air conditioners, glycol cooled (rated at 40% propylene glycol)	< 65,000 Btu/h	2.50/2.39
	≥ 65,000 Btu/h and < 240,000 Btu/h	2.15/2.04
	□ 240,000 Btu/h	2.10/1.99
Air conditioners, glycol cooled(rated at 40% propylene glycol)with fluid economizer	< 65,000 Btu/h	2.45/2.34
	≥ 65,000 Btu/h and < 240,000 Btu/h	2.10/1.99
	□ 240,000 Btu/h	2.05/1.94

## 8. HVAC Equipment Controls & Air Flow Management

Energy savings analysis with energy modeling are required to be eligible for incentives. Inlet Temperature Reset, Hot Aisle/Cold-Aisle Configuration, Optimized Supply/Return, Air-Side Economizers, Water-Side Economizers are among eligible measures.