DATA CENTER EFFICIENCY PROGRAM

PROGRAM OBJECTIVE:

Consolidated Edison Company of New York (Con Edison) and the New York State Energy Research and Development Authority (NYSERDA) are offering $10 million to help data centers identify energy efficiency upgrade opportunities and implement measures that will reduce energy costs. The two organizations will combine expertise and resources to offer data centers an unprecedented opportunity to reduce operating costs, improve energy efficiency and reduce carbon output.

SECTOR OVERVIEW:

New York State (NYS) contains the second highest concentration of data centers in the US; a study completed by Lawrence Berkley National Labs found that data centers in NYS consume an estimated 4.5 billion kWh/year at a cost of $594 million/year.

- Capacity Constrained. Many data centers are hindered from additional growth by their capacity limits and existing footprints; Data centers with these constraints are faced with the decision to optimize existing assets or design and build newer, more efficient facilities.
- Energy Use. Data center energy consumption is highly concentrated and can amount to 100x the watts per square foot of a commercial office building. In addition, data centers are mission critical and operate 24/7, requiring approximately three times the annual operating hours as other commercial properties. Studies have shown that energy consumption from data centers doubled between 2000 and 2005 and currently stands at around 1.5 percent of world total electricity consumption. According to an Uptime Institute study published in 2008, data center energy use could quadruple by 2020.

HOW TO REDUCE YOUR DATA CENTER OPERATIONAL COSTS:

The need to manage energy consumption in the NYS data center sector is matched by significant potential to realize savings through energy efficiency improvements. Data centers are good candidates for deep energy savings as they can engage in comprehensive projects that involve efficiency improvements in:

- Building Support Systems – Efficiency upgrades to building systems that support the IT equipment often present projects with quick payback. This could include CRAC/CRAH replacements, VFDs, airflow management optimization (i.e. hot-aisle/cold aisle configuration, blanking panels, etc.), chiller plant retrofits, etc.
- IT Equipment and Strategies – IT system and infrastructure upgrades, while usually considered operational projects, also yield significant energy savings opportunities. Projects involving server refresh, virtualization, storage consolidation, etc. increase the productivity and reduce energy the data center footprint. IT system upgrades often create a cascade effect, resulting in reduced cooling needs.

SERVICES OFFERED:

The initiative will offer integrated services to New York data center customers in Con Edison service territory for both existing and new buildings. The Joint Data Center Program consists of four main components:

- Outreach, Education, and Marketing to recruit data centers into the initiative;
- Technical Assistance Studies for data centers and server closets interested in identifying their energy efficiency options - up to 50% cost share;
- Energy Improvement Installation Incentives to off-set the cost of energy efficiency improvements. Improvements could include lighting, cooling, insulation, VFDs, server upgrades, virtualization, storage consolidation and other energy-related measures; and,
- Customer Installation Support to provide participating data centers with a complete package that addresses all energy related issues critical to their facilities' operation.

A customized portfolio of energy efficiency services will be tailored to data center's specific energy needs.