New Jersey Energy Master Plan
2005-2020
Direct Load Control Strategy Template

SUBMITTED BY

Name of Organization: Jersey Central Power & Light

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Objective

I Attain technically feasible electric efficiency and conservation gains of 19.95 million MWhs by 2020.

II Eliminate transmission congestion by 2020 to equalize wholesale electricity Locational Marginal Prices.

Strategy

Reconstruct load control capacity for residential and small commercial air conditioning loads through implementation of enhanced direct load control ("DLC" or "load control") using two-way communicating control devices.

Over time and based on the availability of/compatibility with critical peak pricing ("CPP") rates, coordinate the program offerings by providing new and turn-over customers a choice of either a load control or CPP rate as a default service rate.

Responsible Party

The Board of Public Utilities endorses and supports a policy supporting dynamic response of demand to market and reliability conditions, as well as real-time price signals to small commercial and residential customers, and full cost recovery associated with deployment.

Utilities manage the competitive procurement of infrastructure and systems required to support initiatives, as well as the marketing, installation and management of programs.

Timeline of action

2007 For direct load control initiative:

- ✓ *define programs, operating strategies, target markets and participation levels; define and establish merits and objectives for DLC products, and appropriate relationship with any Critical Peak Pricing initiatives*
- ✓ *establish expected life, and maintenance service requirements for products*
- ✓ *define and estimate capital and O&M cost projections and revenue requirements associated with implementation (hardware, software, marketing and customer communications, installation, billing system revisions, communications systems, etc.),*
- ✓ *assess and establish cost-effectiveness of programs*
- ✓ *resolve ratemaking, rate design and cost recovery for program(s)*

2007-2015 Develop DLC programs and infrastructure
2015 Establish DLC as a requirement for new (and if appropriate for turnover) customers with central air conditioning. Coordinate with CPP requirements.

Strategy outcome

I *Create dynamic load response capacity as a resource contributing support for capacity requirements, market energy price excursions (system-wide or for local congestion), and transmission or distribution reliability support.*

II. *Increase customer awareness, and opportunities for customers to help mitigate costs associated with peak load conditions and support local reliability via a "load shifting" strategy.*

For JCP&L, if cost effective, attain ~100MW (3-5% of segment load) of DLC demand response capability for the Residential and small C&I segments[1] by 2020.

Implementation cost

There are many choices with varying associated costs. Costs depend on technology selected and pace of enrollment. First costs for load control will range from $400-700 per enrolled customer. While one-way communications costs are relatively low, low system reliability w/out confirmation has proven to be unacceptable indicating need for two-way or equivalent communications. Options are currently under investigation.

Source of Funding

Initially, the System Control Charge that currently supports the DLC program should be used. Longer-run sources of funding may include PJM energy and capacity markets (indirectly billable to BGS suppliers), CEP or new CPP Rates.

Funding sources	Yes	No
Private sector funds		X
Public sector funds		X
Consumer/ratepayer Funds	X	

Indicators

Numbers of participants
MW of dispatchable load
Value ($/kW) of Responsive Peak Load

Source

Enrollment statistics and load studies as required by PJM and/or BPU.

	A. Current state of indicator JCP&L currently has roughly 68,000 customers (~76,000 load control switches) enrolled in one-way DLC program. Most switches are missing or inoperable, having past end of expected life, and one-way communications do not support identification of failed units. System requires retirement and/or replacement. Current value is negligible given low current market-based volatility and capacity values and operability of asset. New PJM "Reliability Pricing Model" (RPM) may increase value.
	B. Indicator Projection to 2020. Projected values and costs are under joint investigation by utilities in consultation with the BPU Division of Energy and other agencies.