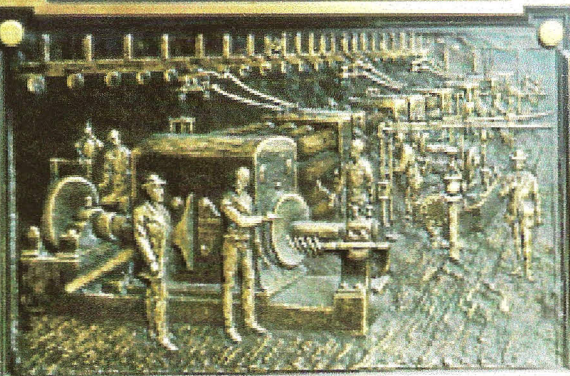




Pearl Street Revisited



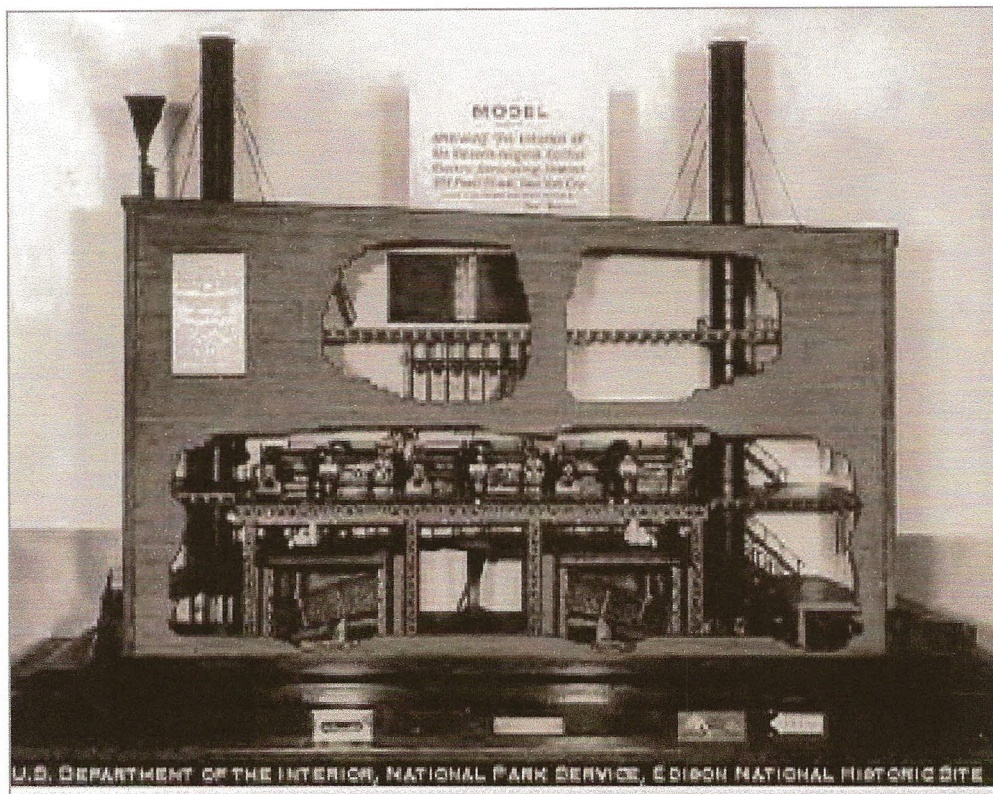


1882 1917
IN A BUILDING ON THIS SITE AN ELECTRIC
PLANT SUPPLYING THE FIRST EDISON
UNDERGROUND CENTRAL STATION SYSTEM
IN THIS COUNTRY AND FORMING THE ORIGIN
OF NEW YORK'S PRESENT ELECTRICAL SYSTEM
BEGAN OPERATION ON SEPT. 4, 1882
ACCORDING TO PLANS CONCEIVED AND
EXECUTED BY

THOMAS ALVA EDISON

TO COMMEMORATE AN EPOCH-MAKING EVENT
THIS TABLET IS ERECTED BY
THE AMERICAN SCENIC AND HISTORIC PRESERVATION SOCIETY
THE NEW YORK EDISON COMPANY

“The power station he (Edison) envisaged would be placed as nearly as possible in the center of this district (financial), with its conductors in underground conduits...After prowling all about the section, he determined upon a site 50 by 100 feet at 255-257 Pearl Street. His plans called for the installation of six of the new “Jumbo” dynamos.



To save space, boilers were placed on the ground floor, while the dynamos, directly connected to Porter-Allen steam engines, were laid out on the second story, which was supported by heavy structural-iron girders on iron columns. Provision was made for a sufficient supply of coal.” Matthew Josephson’s Edison: A Biography

EL. LT. & E. LT. Co. Reports
851027

D-147

THE EDISON ELECTRIC LIGHT
COMPANY.

REPORT

OF THE

BOARD OF TRUSTEES.

TO THE

STOCKHOLDERS,

AT THEIR

ANNUAL MEETING,

OCTOBER 27TH,

1885.

NEW YORK:

C. G. DUNGOYNE'S "QUICK" PRINT, 148-150, CENTRE STREET.

1885.

and effort, little remains to be desired in our system of central station and isolated lighting of to-day.

During the year, 14 central station companies have been organized, viz.: Harrisburg, Pa., Des Moines, Ia., York, Pa., West Chester, Pa., Tamaqua, Pa., McKeesport, Pa., New Brunswick, N. J., Wilmington, Del., Boone, Ia., Johnstown, Pa., New Bedford, Mass., Lockport, N. Y., Little Falls, N. Y., Jackson, Mich.

There are now 31 central station plants in operation or in course of installation in the United States, a complete list of which is given below:

LOCATION.	CAPITAL.	LAMP CAPACITY.
* New York City.....	\$1,000,000	12,000
* Lawrence, Mass.....	65,000	3,200
* Brockton, ".....	65,000	4,000
* Fall River, ".....	80,000	3,680
* Newburgh, N. Y.....	45,000	1,600
Shamokin, Pa.....	27,000	2,400
Sunbury, Pa.....	20,000	500
Hazleton, Pa.....	35,000	1,000
Williamsport, Pa.....	100,000	1,000
Harrisburg, Pa.....	100,000	5,600
Bellefonte, Pa.....	16,000	800
Ashland, Pa.....	20,000	1,000
Appleton, Wis.....	25,000	800
Cumberland, Md.....	50,000	1,000
Piqua, Ohio.....	40,000	1,000
Middletown, Ohio.....	20,000	1,000
Tiffin, Ohio.....	40,000	1,000
Circleville, Ohio.....	30,000	1,000
Des Moines, Iowa.....	80,000	3,800
West Chester, Pa.....	30,000	1,500
New Bedford, Mass.....	50,000	2,000
McKeesport, Pa.....	100,000	1,600
Tamaqua, Pa.....	50,000	1,600
New Brunswick, N. J.....	50,000	1,600
York, Pa.....		1,600
Wilmington, Del.....		1,600
Boone, Ia.....		600
Johnstown, Pa.....		2,000
Lockport, N. Y.....		400
Little Falls, N. Y.....		500
Jackson, Mich.....		500
Total Lamp Capacity.....		63,480

The plants marked * have underground conductors; the others have pole lines.



A 30 story office building housing Pencom's "Galactic Headquarters" on 40 Fulton Street is located on the former Pearl Street site.



Pearl Street



Fulton Street

Edison Pearl Street

- Power output: 936,000 Watts:
13,000 lamps @ 16 candle
power/lamp @ 4.5 Watts/
candle power
- Cost: \$1,000,000 (1887 dollars)
or \$1068/kiloWatt
- Footprint: 5000 sq feet
- Service territory: 0.5 mile by
0.5 mile or 6,969,600 sq feet

Capstone Microturbine

- Power output: 32- 30,000 Watt
480 volt units generate a total
of 960,000 Watts
- Cost: \$960,000 or
\$1000/kiloWatt
- Footprint: 320 sq feet

TES Energy Proforma for ConEd Service Classification 9												
Max Kw	2000	(estimated maximum building demand)										
Capstone Multipack (kW)	960											
Availability	0.95											
Installed cost (\$)	1,222,760											
Fuel cost (\$/therm)	1.00											
		Present Electric Bill						Capstone Savings				
Month	Demand \$	On Peak \$	Off Peak \$	Benefit \$	Total		Demand \$	On Peak \$	Off Peak \$	Benefit \$	Stand by \$	Total
May	38,260	44,114	20,172	1,277	103,823		13,670	26,615		309	(6,059)	34,536
June	65,680	64,126	21,548	1,234	152,587		9,523	32,643		296	(6,059)	36,403
July	64,740	78,851	22,095	1,277	256,410		9,523	42,788		309	(6,059)	46,561
August	64,160	83,140	19,961	1,277	168,538		9,523	46,924		309	(6,059)	50,698
September	66,060	55,566	22,663	1,227	145,516		12,317	25,148		282	(6,059)	31,688
October	37,440	34,434	19,140	1,277	92,292		13,766	23,211		309	(6,059)	31,227
November	34,680	55,009	22,248	1,277	113,214		16,992	26,404		309	(6,059)	37,646
December	34,160	56,683	22,860	1,277	114,980		16,397	27,208		309	(6,059)	37,855
January	31,900	71,677	20,594	1,277	125,448		15,312	34,405		309	(6,059)	43,967
February	32,860	51,688	19,953	1,277	105,778		15,773	24,810		309	(6,059)	34,833
March	34,680	52,175	23,893	1,277	112,025		16,646	25,044		309	(6,059)	35,941
April	34,020	45,805	23,473	1,277	104,575		16,330	21,986		309	(6,059)	32,566
Total	538,640	693,269	258,598	15,231	1,595,185		165,773	357,187		3,669	(72,708)	453,921
ConEd electric bill savings (\$)					453,920.74							
Generation cost (\$) @ kWh x (\$/therm/26kWh/therm)					(132,534.75)							
O&M cost (\$) @ \$0.0065/kWh					(22,656.82)							
Simple payback (years)					4.09							
ROI (%)					24							



Capstone MicroTurbine™

CAPSTONE C60
High Pressure
Natural Gas

The Product

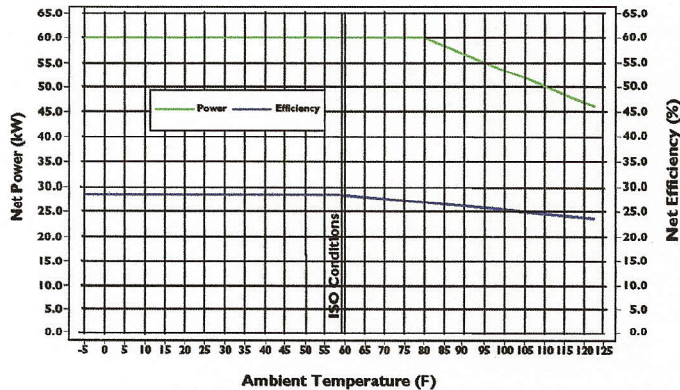
Features

- Load-following 0-60 kW
- 360-528 VAC, 50/60 Hz
(Stand-alone 360-480 VAC, 10-60 Hz)
3-phase, 3- or 4-wire wye (4-wire for stand-alone)
100ARMS/phase max continuous
- Grid-connect and/or stand-alone
- Maintenance-free air bearings
- No liquid lubricants
- No liquid coolants
- Digital power controller
- Built-in display and user interface
- Built-in protective relays
- Built-in MultiPacking of 2-20-units
(unlimited via grid connect)

Benefits

- Ultra-low emissions
- Minimal maintenance
- Direct2Grid™ interconnection
- No fluid storage, changes, disposal
- Uncontaminated exhaust heat for CHP
- Phase-to-phase balance (0-100%)
on stand-alone units
- Small footprint
- Vibration-free, quiet operation
- Easy indoor/outdoor/rooftop siting
- Zero hardware arraying (up to 1.2 MW)
- Optional remote monitoring

C60 Net Power and Efficiency
at Ambient Temperature, Sea Level



Compliances

UL 1741
UL 2200
IEEE 519
CEC Rule 21
NYPSC DG
EPA Exempt
CA AQMD Exempt
WY DEQ Exempt
NEMA 3R / IP 14
Others*



Full-Load Specifications @ ISO Conditions (15°C / 59°F @ sea level)

Performance

Natural gas (75-80 psig)**

Power

60 kW net (+0/-2)**
83 kVA max @ 480 VAC

Efficiency (LHV)

28% (± 2)

Heat Rate (LHV)

12,900 kJ (12,200 Btu) / kWh

Emissions:

NO_x <9 ppmV @ 15% O₂ (<0.49 lb/MWh)

Intake/Exhaust

Fuel flow (natural gas-HHV) 849,000 kJ/hr (804,000 Btu/hr)
Exhaust gas temperature 305°C (580°F)
Mass flow 0.49 kg/s (1.07 lb/s)
Total exhaust energy 571,000 kJ/hr (541,000 Btu/hr)

Dimensions

H: 2108mm (83")
W: 762mm (30")
D: 1956mm (77")

Weight

758 kg (1671 lb)
Add 363 kg (800 lb) for stand-alone

Sound

70dBA @ 10 m (33 ft)
65dBA @ 10 m (33 ft) (small)
CE L_{WA} 99 compliant

* See www.microturbine.com/compliance for detail

** Without gas compression option. Inlet 0.5 psig with external fuel gas booster.

Fuel heat content: 36.1 to 42.1 MJ/m³ (970 to 1130 Btu/scf) HHV; natural gas, methane.

The manufacturer reserves the right to change or modify, without notice, the design or equipment specifications without incurring any obligation either with respect to equipment previously sold or in the process of construction. The manufacturer does not warranty the data on this document. Warranted specifications are documented separately.

CAPSTONE TURBINE CORPORATION
www.microturbine.com