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NY's increasing electric demand sparks plans for new power lines

Transmission links to outside sources emerge

BY PHILIP LENTZ

New York City's persistent electricity shortages have prompted a spate of proposals to build new transmission lines into the city.

Five transmission developers have requested connection studies from the state power grid. Combined, the projects would add nearly 6,000 megawatts of electric capacity to the city's power system, the equivalent of six new large power plants.

Increasing electric demand and the lack of new power plant construction have left the city's power supplies very tight. At the height of last month's heat wave, the city used a record 10,650 megawatts, and state officials say the city needs 2,000 to 3,000 megawatts in additional electric capacity over the next few years to meet rising demand.

The need will diminish slightly over the short term because of the destruction of the World Trade Center, which used 200 megawatts of electric capacity. But developers say long-term electric demand will continue to rise, and so will the demand for new sources of energy.

Time factor

To address this shortage, generators have proposed a dozen new power plants in the city, and some have begun to receive state approval. But the process of siting and building power plants can be long and expensive, and generators often face strong community opposition.

An alternative way to increase electric capacity is to build new transmission lines, so more electricity can be imported into the city.

LAYING CABLE

Listed below are electric transmission lines proposed for New York City.

Company	Capacity (megawatts)	Origination
Atlantic Energy	1,200	New Brunswick, Canada
Atlantic Energy	600	New Jersey electric grid
GenPower	800	Nova Scotia, Canada
PG&E National Energy	300 or 1,200	Linden, N.J.
PSEG Power	1,200	Ridgefield, N.J.
TransEnergie U.S.	990	New Jersey electric grid

SOURCES: NEW YORK INDEPENDENT SYSTEM OPERATOR, TRANSMISSION COMPANIES

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While the city now has seven transmission lines running to New Jersey, upstate New York and Long Island, these cables can handle only 5,000 megawatts of electricity and often work at full capacity during summer heat waves.

Still, there are enormous financial and logistical obstacles to building new transmission capacity. Developers must secure federal, state and city permits. They must also attract enough potential customers to secure financial backing for what are often multibillion-dollar construction projects.

In addition, transmission developers must reach agreements with Consolidated Edison Inc. to connect to the city power grid. Only two substations in the city are capable of handling electricity from large underwater cables, one at West 49th Street in Manhattan and one in western Brooklyn.

"There's a finite system," says Joe Oates, Con Ed vice president of energy management. "If all these things were built, we would not be able to accommodate them all at the same time."

Switching currents

The project furthest along is also the most ambitious. Atlantic Energy Partners, a Maine-based consortium, is proposing a $3 billion, 2,000-mile system of transmission cables linking New Brunswick, Nova Scotia, Maine and Boston to New York and Long Island. The system would also link the city to New Jersey's power grid.

The Federal Energy Regulatory Commission in June gave Atlantic Energy permission to seek potential customers, which will test whether there is a market for its system.

Atlantic Energy is proposing using a novel technology of direct current, instead of the alternating current that is used in most transmission lines. DC lines don't create electromagnetic fields, resulting in less environmental impact, and they lose less power over long distances.

The project with the best chance of approval is still in the formative stages. PSEG Power, an affiliate of the New Jersey utility PSE&G, is considering building a 1,200-megawatt line that would connect the city to a power plant it's building in Ridgefield, N.J. The 7.5-mile cable would be dedicated to the plant, enabling PSEG to price its energy at the same rates charged by New York City plants, which generally charge more than New Jersey plants.

Three other projects have also been proposed. ■

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