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The Light Switches Are in Manhattan, the Power's From New Jersey

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Not that they would have noticed, but some Manhattanites are now using electricity imported from New Jersey through a new underwater connection.

At midnight, Hudson Transmission Partners switched on a cable that can carry up to 660 megawatts of power from an electrical substation in Ridgefield Park, N.J., to one on West 49th Street in Hell's Kitchen. That is enough to run the lights, televisions, computers and air-conditioners in nearly 400,000 homes.

Most of the additional power flowing through the line is being consumed by residents of public housing and government agencies whose electricity is provided by the New York Power Authority. The authority contracted with the cable's developer for three-fourths of the capacity on the cable, which was conceived eight years ago.

"A world-class city and a world-class region needs a diverse supply of energy — and a reliable supply," said Edward M. Stern, chief executive of PowerBridge, the company that built the Hudson cable. "Hudson adds to that reliability, which is hard to put a price on, except when events like Hurricane Sandy happen, and then reliability is, as the saying goes, priceless."

The power is generated west of the Hudson River and fed into a multistate grid known as PJM. Then it is drawn off the grid in Ridgefield Park and fed into the 7.5-mile cable that delivers it to a Consolidated Edison plant serving Midtown.

To bury the cable under the Hudson River, the developer brought one of the few ships that could do the job across the Atlantic from southern Italy 18 months ago.

The state power authority gave strong support to the project, which cost about $850 million, because it said the additional power would reduce the chances of power failures. It also hoped to obtain cheaper electricity than could be bought in the city.

Now that the cable is operating, the power authority has to repay the developer for improvements to the system that it had estimated would cost about $200 million. The authority has said that it will lose money on the project for at least several years.

Whether the investment will pay off in the long run will be determined by how much the authority saves on electricity, a commodity whose price changes quicker than a New Yorker can flip on a light.