ComEd's power play

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Most Chicagoans aren't aware there's a super highway under construction in the city. It's running from the Southwest Side to Goose Island, much of it underground, and when finished next year, it won't be your typical roadway. The route will be used to transport into the heart of Chicago's central business district 400 megawatts of electricity at 345,000 thousand volts --enough power to serve about 120,000 average size homes or about equal to the output from one medium-size power plant.

ComEd's $345 million energy super highway, called the West Loop Project, connects the seven-month-old Goose Island substation to southwest and South Loop substations and is designed to help meet future demand for power and improve reliability in the growing downtown business district.

"All you have to do is take a look downtown and see all the cranes," said Fidel Marquez, **ComEd** vice president of external affairs. "Development is happening, and the amount of energy being demanded is increasing. In order to keep supplying that demand and doing it in a reliable manner, we really have to increase the size of the pipe and the number of pipes going into the city."

The effort is the largest and most complex transmission project to date by the Chicago utility. It will deliver power underground, overhead and through a 55-foot-deep tunnel being dug under the Chicago River near Goose Island. The project entails going under seven separate train and car viaducts.

Two transmission lines, one 10 miles long and the other three miles long and both capable of transporting 345,000 volts of electricity, are being installed. Nearly eight miles of the lines are being placed underground in trenches in city streets. Part of the route runs under the Ohio feeder ramp and underneath railroad tracks at Union Station. A little more than three miles runs overhead and is requiring the construction of 27 new overhead transmission poles --18 of which are already up.

The project, which reached the halfway point last month, is on track for completion in June 2008.

ComEd's investment in the project is its biggest to date for transmission infrastructure and is equal to the entire cost of its transmission plan additions between 2001 and 2004.

Since 2003, the company has invested $800 million in its transmission system, which includes 200 substations and 5,800 miles of high-voltage power lines that deliver power across northern Illinois to individual customers.

ComEd watched its systemwide peak summer load hit a record 23,613 megawatts last August, up more than 9 percent since August 2001, and has forecast a 2 percent per year growth rate in peak load between 2007 and 2017.

The West Loop project is altering **ComEd**'s transmission system from its present hub and spoke design to a network model that will provide distribution substations with multiple sources of power and additional capacity. It includes the underground installation of nine 138,000-volt transmission lines from the West Loop to five existing electrical substations that will transport power north and southeast.

A Southwest Side substation is being expanded. Four new circuit breakers are being added to four presently on the site. That will "add additional switching flexibility to allow the operators to switch between different circuits if equipment fails, or there's a storm, or for maintenance," said Bruce Whiteway, West Loop project manager.

Operators could take the damaged equipment out of service and then use the switches to switch in another circuit to restore power, he explained.

"That boosts reliability," Whiteway said.

ComEd spokesman Luis Diaz-Perez noted that since 1998, outage frequency at the utility has dropped 33 percent and the duration of those outages has fallen nearly 50 percent.

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Photo: Al Podgorski, Sun-Times / Bruce Whiteway, project manager on **ComEd**'s 345,000-volt West Loop Project, stands along the edge of one of the pits used to excavate tunnels beneath the North Branch of the Chicago River.; Color Photo: Al Podgorski, Sun-Times / The massive gas-insulated switch gear housed in **ComEd**'s West Loop substation on Goose Island will enable the company to increase the amount of electricity in the central city and enhance system reliability. Color Photo: A construction worker walks through a tunnel being built for **ComEd** under the North Branch of the Chicago River to Goose Island. The tunnel will be used to help transport power to the city's central business district.;