2009 CARIS Potential Generic Solution
Transmission Cost Matrix
Order of Magnitude Unit Prices

		Transmission					Substation	
Item #	Location	Line System Voltage (kV)	Block Ampacity (Amp)	Block Capacity (MVA)	Construction Type	Transmission Cost ($M/Mile)	Line Terminal Addition per Substation ($M)	System Upgrade Facilities ($M)
T-1	Upstate	345	1673	1000	Overhead	$2M/mile to $5M/mile in $1M/Mile increments	$3.0	$3.0
T-2	Downstate	345	1673	1000	Undergrd	$15M/mile to $25M/mile in $5M/mile increments	$5.0	$4.0
T-3	Long Island	138	2092	500	Undergrd	$10M/mile to $20M/mile in $5M/mile increments	$3.0	$3.0

Assumptions

1. Lines constructed within Zones A through G will be comprised of single circuit overhead construction utilizing steel construction, 600' span lengths and 200' wide ROW.

2 Lines constructed within Zones H through K will be comprised of underground cable construction of PPP (paper/polypropylene/paper) insulated cable and HPFF (high pressure fluid filled) pipe cooled with 5 manholes per mile.

3. The transmission line will be interconnected into an existing 345kV substation for Upstate and Downstate and 138kV for Long Island.

4. The cost for lines that cross between Zones G and Zones H or I will be pro-rated as overhead or underground based on the mileage of the line included within each Zone.

5. The line can be permitted and constructed utilizing the shortest distance between the two selected substations.

6. The cost per mile includes a range to account for the variable land and permitting costs associated with a project such as utilizing an existing ROW, expanding an existing ROW or obtaining new ROW.

7. The existing substation selected as the interconnection point consists of open air construction and has sufficient space within the fenced yard for adding a new breaker and a half bay for the new line terminal. **If the selected substation is Gas-Insulated, a factor of 4 times will be applied to the base substation terminal costs.**

8. The control house at the existing substations selected as the interconnection point has sufficient space for installing the new protection and communication equipment for the new line terminal.

9. The substation line terminal costs include the necessary protection and communication equipment.

10. System Upgrade Facilities will consist of line terminal relay upgrades and replacement of overdutied breakers.

11. Estimates include costs for material, construction labor, engineering labor, permits, testing and commissioning.