

**NON-TRANSMISSION
ALTERNATIVES
ASSESSMENT FOR THE
GEORGIA RELIABILITY
PROJECT**

PUBLIC EXECUTIVE SUMMARY

PREPARED FOR

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PREPARED BY

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Consultant Report

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I. EXECUTIVE SUMMARY

Vermont Electric Power Company (“VELCO”) retained La Capra Associates, Inc. (“La Capra Associates”) to evaluate possible non-transmission alternatives (“NTAs”) to the Georgia Reliability project, a proposed substation and other ancillary transmission upgrades in Georgia, VT. La Capra Associates developed three alternative resource configurations (“ARCs”) that could serve as NTAs.

- ARC 1: Distributed Generation as needed over the 18 year time horizon that corresponds to the added reliability of all planned transmission upgrades
- ARC 2: Distributed Generation as needed over the 5 year time horizon that the planned upgrade to the Georgia substation alone would provide
- ARC 3: Temporary Generation as needed to postpone the substation upgrade from 2014 to 2018, to test the impact of a 5 year deferral of transmission upgrades

This evaluation was also performed with and without consideration of potential out-of-market generation costs as well as with and without contingency costs included in the capital costs of transmission additions.

The capital cost of the full proposed transmission solution is approximately \$22.7 million without contingency. The net present value (“NPV”) of the cost of the transmission solution is \$26.8. It is expected that about 63% of this investment would qualify as Pool Transmission Facilities (“PTF”), and thus 63% of the cost of this project would be socialized across all of New England. The Georgia substation is assumed to be 100% PTF and the other components of this project are assumed to be 100% non-PTF. Therefore, Vermont’s share of the NPV cost of the transmission solution is \$10.0 million.

By comparison, the NPV cost of the NTA scenarios that produced comparable reliability to the transmission solution ranged from \$83.9 million to \$254.3 million for the 18 year horizon. Even if out-of-market generation costs were not considered, and only the NPV

of the fixed cost of the NTAs was compared to the total NPV cost for the transmission solution, the NPV cost of the NTA scenarios that produced comparable reliability to the transmission solution ranged from \$54.7 million to \$173.4 million.

Table 1 below summarizes the results of this economic evaluation over the 18 year planning horizon. Table 2 summarizes the results over the 5 year planning horizon of the substation alone.

Table 1
Summary of the Georgia NTA Study (18 year outlook)

18 Year Analysis

Scenario	Alternative Resource Configuration	Capital Costs	NPV COSTS	NPV COSTS	Installed Capacity
			without Out-of-Market generation costs (millions of 2013\$)	with Out-of-Market generation costs (millions of 2013\$)	
1	ARC 1	\$200.3	\$173.4	\$254.3	90
2	ARC 3 (without Contingency)	\$84.6	\$54.7	\$83.9	70
3	ARC 3 (with Contingency)	\$92.3	\$56.8	\$86.0	70
	Transmission Solution without Contingency	\$22.7	\$10.0	\$10.0	n/a
	Transmission Solution with Contingency	\$28.7	\$12.8	\$12.8	n/a

Table 2

Summary of the Georgia NTA Study (5 year outlook)

5 Year Analysis

Scenario	Alternative Resource Configuration	Capital Costs	NPV COSTS without Out-of-Market generation costs (millions of 2013\$)	NPV COSTS with Out-of-Market generation costs (millions of 2013\$)	Installed Capacity
4	ARC 2	\$137.4	\$58.5	\$87.6	70
	Transmission Solution without Contingency	\$14.4	\$0.3	\$0.3	n/a
	Transmission Solution with Contingency	\$18.0	\$0.3	\$0.3	n/a

We conclude from this data that the transmission solution has a significantly lower cost than any NTA scenarios studied with or without PTF treatment.