

Executive Summary Excerpt

La Capra Associates

NON-TRANSMISSION
ALTERNATIVES
ASSESSMENT FOR THE
JAY AREA RELIABILITY
("JAR") PROJECT

PREPARED FOR

**Vermont Electric Power Company
Vermont Electric Cooperative**

PREPARED BY

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Consultant Report

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I. EXECUTIVE SUMMARY

Vermont Electric Power Company (“VELCO”) and the Vermont Electric Cooperative (“VEC”) retained La Capra Associates, Inc. (“La Capra Associates”) to evaluate possible non-transmission alternatives (“NTAs”) to the Jay Area Reliability (“JAR”) project, a group of proposed transmission facility upgrades in northern Vermont. La Capra Associates developed three alternative resource configurations (“ARCs”) that could serve as NTAs.

- ARC 1: Maximum Demand Side Management, plus Distributed Generation as needed
- ARC 2: Distributed Generation as needed
- ARC 3: Maximum DSM and Combined Heat and Power, plus Distributed Generation as needed

These NTA scenarios were evaluated over the 2012 to 2030 time period with the Block Load served by either the VELCO or the Hydro Quebec systems. This evaluation was also performed with and without consideration of potential out-of-market generation costs.

The capital cost of the proposed transmission solution is approximately \$30.2 million without contingency. The net present value (“NPV”) of the cost of the transmission solution is \$35.7 million. It is expected that about 26% of this investment would qualify as Pool Transmission Facilities (“PTF”), and thus 26% of the cost of the JAR project would be socialized across all of New England. Therefore, Vermont’s share of the NPV cost of the transmission solution is \$26.0 million.

When the Block Load is supplied by VELCO, the NPV cost of the NTA scenarios that produced comparable reliability to the transmission solution ranged from \$414 million to \$544 million. Even if out-of-market generation costs were not considered, and only the

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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 \$111 million to \$353 million.

When the Block Load is supplied by HQ, the NPV cost of the NTA scenarios that produced comparable reliability to the transmission solution ranged from \$559 million to \$741 million. 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 NPV cost for the transmission solution, the NPV cost of the NTA scenarios that produced comparable reliability to the transmission solution ranged from \$132 million to \$374 million. Table 1 below summarizes the results of this economic evaluation.

Table 1
Summary of the Jay Area NTA Study

Scenario	Block Load Supply	Alternative Resource Configuration	Capital Costs [1]	NPV COSTS without Out-of-Market generation costs (millions of 2012\$)	NPV COSTS with Out-of-Market generation costs (millions of 2012\$)	Installed Capacity [2]
7	VELCO	ARC 1	\$116.6	\$111.3	\$483.1	55
8	VELCO	ARC 2	\$126.9	\$121.6	\$543.9	60
9	VELCO	ARC 3	\$80.0	\$352.5	\$414.0	35
10	HQ	ARC 1	\$137.1	\$132.3	\$681.5	65
11	HQ	ARC 2	\$149.1	\$140.9	\$740.6	70
12	HQ	ARC 3	\$100.6	\$373.5	\$559.0	45
Transmission Solution without Contingency with PTF Treatment			\$30.2	\$26.0	\$26.0	n/a
Transmission Solution without Contingency without PTF Treatment			\$30.2	\$35.7	\$35.7	n/a

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

La Capra Associates also evaluated the use of the ability to transfer the Block Load from VELCO to Hydro Quebec as a reliability solution. We conclude that such a solution is not technically feasible or economic.