

COMMENTS ON THE VELCO 2009 VERMONT TRANSMISSION SYSTEM 20-YEAR RELIABILITY ANALYSIS

- **STUDY OBJECTIVE:** Should this section state the purpose of Docket 7081 and its goal of full, fair and timely consideration of cost effective non-transmission alternatives? The VELCO Analysis is neutral on the issue of whether deferral of transmission upgrades will result in a more cost-effective approach to maintaining the electric supply infrastructure, or whether alternatives to transmission are in any way beneficial to the Vermont economy or individual consumers. It may be appropriate for an *analysis* to present objective data and recommendations based on the data as this study has done, but as a *Plan* it could go further to set goals related to non-transmission alternatives (or acknowledge the goals of Docket 7081), identify VELCO plans to achieve those goals, and discuss the role others (such as consumers) play in support of these goals.
- In the chart of **Transmission deficiencies and proposed conceptual solutions** on pages VIII-X of the **EXECUTIVE SUMMARY** there are 14 upgrades needed in 2009 based on projected load levels. These upgrades added together have a cost of \$170-\$320 million.

We have discussed at VSPC meetings adding “Based on VELCO Load Projections” to the “Year Needed” column on the chart. This makes it clear that, for this analysis “need” has a specific meaning that may be subject to dispute, may be modified by future studies, or may represent a focus of planning not only for transmission upgrades but for non-transmission alternatives as well.

At the December VSPC meeting there was discussion of the graph on page 7 and removing the blue line connecting the 2008 historical peak with the ITRON forecast starting point.

- It is difficult to determine on page 3 of the Analysis what DSM was included in the VELCO analysis and what is included in Forecast 20. This would be a good location in the document for VELCO to state what it plans to do when the DSM forecast is completed— that is, whether it will apply the information to the 2009 Transmission System Analysis and provide an update.
- On page 5 of the Docket 7081 MOU (9. under Step 1) it states, “For each such Reliability Deficiency that is Bulk Transmission System or Predominantly Bulk System, VELCO will identify the likely Transmission solution and costs thereof, and identify the performance specifications that NTAs will need meet to achieve Equivalence.” I could not find this information. A good location for these performance specifications would be with the deficiencies listed starting at page 65.
- **NTA SCREENING OF PROPOSED SOLUTIONS**
For most deficiencies with a “Year Needed” date of 2009, the VELCO response to Question 2 of the NTA screening is: *No. The load level at which the project is needed is () MW, which is approximately ()% of the projected 2009 summer peak load level.* VELCO is taking a different approach than previous screenings. With the

Lyndonville Substation Project the answer to Question 2 was “yes” because, at least in theory, the upgrade could be deferred by alternatives. The intent of the NTA screening tool was to keep non-transmission alternatives under consideration for all but a few reliability deficiencies that clearly cannot be resolved other than by transmission upgrades. I believe this is how the tool should be used, and that further work should be done to develop the NTA screening tool or another step in the VSPC process so that alternatives to transmission have at least some consideration.

In several instances there is a “Don’t know” response to Question 3 of the NTA screening. A better response would be to explain how and when this question will be answered.

- I agree with others who have commented on the difficult to understand language in the Analysis, and support the idea of using “plain English” when possible—and the addition of a glossary.

Some terms that should be defined include:

“dispatch”
“steady state”
“power factor”
“phase shifter”
“thermal” vs. “voltage”
“failed to converge”
“reactive compensation”
“bus”
“ring station”
“emergency capability”
“shoulder load levels”

Some sentences or sections that could be made clearer include:

Page 2, Section **1.3.1 LOAD**: “Losses increased due to no additions to the network or generation in Vermont.”

Page 55, section 3.3: “The majority of step-down transformer substations contain only one transformer, and there are fewer than 40% of the transformer locations where loss of a transformer does not cause some concern immediately.”

Page 5: Most of the zones also have a number identification. An explanation of this numbering system would be helpful.

Page 20, paragraph under **Contingencies excluded**: Change “rested” to “tested.”

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