VERMONT

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Inputs and Assumptions for Electric Utility Assessment Model: Co-op and Municipal Utilities

The Department of Taxes has contracted with Utilities Appraisal Consultant, Brian D. Fogg, LLC, to establish utility values for electric transmission and distribution, as required under 32 V.S.A. § 4452. This document is intended to capture the specific methodology, including inputs and assumptions, for informational purposes only.

Inputs and Assumptions

Generally, the data that the Co-ops and Municipal Electric Companies (Munis) are able to provide differs greatly from what the Regulated Utilities can deliver. Therefore, the methodology and requirements for these entities is quite different. When available, Co-ops and Munis will provide the following:

1. Town/City/Municipality
2. Miles of 34.5 kV Transmission lines
3. Miles of 46 kV Transmission lines
4. Miles of 69 kV Transmission lines
5. Number of kVAs installed in Substations
6. Combined Total Number of Customers for all Residential (low kVA), Commercial (high kVA) and Street Lights
7. Gross company revenue for the Town/City/Municipality

1. **Calculations for Sub-Transmission Lines**
    a. Sub-Transmission Lines are valued on a per unit (Miles of line) basis at a depreciated average cost.

Sub-Transmission Line Calculations

Line Voltage	Miles	Depreciated Cost	RCNLD
34.5 kV	1	$194,620	$194, 620
46kV	15	$224,960	$3,374,400
69kV	7	$264,180	$1,849,260

2. **Calculations for Substations**
    a. Substations are valued on a per unit (Installed kVA) basis at a depreciated cost.

Substation Calculations

kVAs	Depreciated Cost	RCNLD
1	$141	$151
100	$151	$15,100
4200	$151	$634,200
47	$151	$7,097

3. **Value by Customer Calculations**
    a. The value by customer, as previously indicated, is based on the combined total number of customers across all Residential (low kVA), Commercial (high kVA) and Street Lights within the community.

$/Customer Calculations

Customers	Average $/Customer	Indicated Value/Customer
559	$2,640	$1,475,760

4. **Gross Revenue Calculations**
    a. The company reported Gross Revenue for the community is used to calculate the Net Operating Income (NOI) as a percentage (20.5%) of the Gross Revenue and subsequently capitalized using a cap Rate of 9.50%.

Gross Revenue Calculations

A	B	C	D	E
Gross Revenue	**NOI as % of Gross Revenue**	**NOI (A × B)**	**Cap Rate**	**Indicated Value by Revenue (C ÷ D)**
$1,465,918	20.5%	$300,513	9.50%	$3,163,297

5. **Reconciliation of Value**
    a. The Indicated Value by Revenue and the Indicated Value by Customer are then averaged, and that average is added to the total value of the Sub-Transmission lines and Substations. The following table demonstrates this process using the examples above. Cells that are highlighted are static numbers.

Property Owner: VT Town Electric Company
Property Located in Town/City: VT Town

Sub Transmission - Numbers in the "Cost" column are static numbers.

Line Voltage	Miles	Cost	RCNLD
34.5kV	1	$194,620	$194,620
46kV	15	$224,960	$3,374,400
69kV	7	$264,180	$1,849,260
		Total RCNLD:	**$5,418,280**

Substations - Numbers in the "Cost" column are static numbers.

kVAs	Cost	RCNLD
1	$151	$151
100	$151	$15,100
4,200	$151	$634,200
47	$151	$7,097
	Total RCNLD:	**$656,548**

**$/Customer – "**$/Customer" is a static number.

Number of Customers	$/Customer	Indicated Value by Customer
559	$2,640	$1,475,760

Gross Revenue - "NOI as %" and "Cap Rate" are static numbers.

Gross Rev.	NOI as %	NOI	Cap Rate	Indicated Value by Income
$1,465,918	21%	$300,513	9.50%	$3,163,297

Reconciliation of Value Totals

Indicated Value of Distribution Assets Net of Substations and Sub Transmission	$2,319,528
Sub Transmission Indicated Value	$5,418,280
Substation Indicated Value	$656,548
Total Indicated Value	$8,394,356

Definitions

The inputs and assumptions for the Electric Utility Assessment Model described above are intended to conform with the terms “Mass Appraisal” and “Mass Appraisal Model” as defined by The Dictionary of Real Estate Appraisal, 6th Edition, which are respectively :

mass appraisal. The process of valuing a universe of properties as of a given date using standard methodology, employing common data, and allowing for statistical testing. (USPAP, 2016-2017 ed.) Often associated with real property tax assessment valuation.

and

mass appraisal model. A mathematical model used to develop values for each property within a group or universe of properties.

Therefore, the Electric Utility Assessment Model itself, and any resulting community-by-community assessments are considered to be in compliance with USPAP Standards 5 and 6. Additionally, the Electric Utility Assessment Model itself, and any resulting community-by-community assessments are not intended to be USPAP Standard 1 and 2 appraisals and do not comply with USPAP Standards 1 and 2.

Disclaimer

The data and inputs described in this document are subject to change as annual adjustments are made to the model.