

NH Public Utilities Commission  
Docket No. DE 21-104  
Record Request – Set 1

Received: June 7, 2022  
Request Number: DOE RR-1

Date of Response: June 14, 2022  
Witness: Donna Mullinax

**Request:**

The bench requested an analysis of the effect on return on equity if the capital structure ratio was modified from the agreed to 48% debt/52% equity to 50%/50% while holding the agreed to revenue increase at \$6,091,477 and cost of debt at 4.93%.

**Response:**

To make the calculation, a number of variables in the revenue requirement calculation must be adjusted. These include adjustments to

- Interest synchronization to reflect the changes in income taxes for the interest on rate base. (Changing the weighting to 50%/50% changes the weighted cost of debt which is used to calculate the interest.)
- Cash Working Capital to reflect the change in income taxes for interest synchronization
- Change in total rate base to reflect the change in Cash Working Capital and the iterative recalculation of interest synchronization associated with the change in rate base
- Holding the revenue increase to the agreed to \$6,091,477 requires a modification to the return on equity to reflect the above changes

Recognizing the various affected components while holding the revenue increase to \$6,091,477 and cost of debt to 4.93%, results in an estimated increase in the return on equity from the agreed to 9.3% to 9.53%.

The following table compares the weighted average cost of capital (WACC) and revenue deficiency reflected in the Settlement to the effect of flowing the WACC changes through the various components that are involved in the calculation.

**NEW HAMPSHIRE PUBLIC UTILITIES COMMISSION**  
**DG 21-104**  
**Northern Utilities, Inc.**  
Twelve Months Ending December 31, 2020  
Analysis Comparing Settlement to WACC 50/50 with Modified ROE

	Settlement			WACC 50/50 with Modified ROE			Change from Settlement
	Weight	Cost	Weighted Cost	Weight	Cost	Weighted Cost	
1 Rate Base			\$ 188,235,077			\$ 188,231,216	\$ (3,861)
2 Weighted Average Cost of Capital							
3 Common Equity	52%	9.30%	4.84%	50%	9.53%	4.77%	0.23%
4 Long Term Debt	48%	4.93%	2.37%	50%	4.93%	2.47%	
5 Total			7.20%			7.23%	0.03%
6 Income Required			\$ 13,557,443			\$ 13,609,117	\$ 51,674
7 Net Operating Income			\$ 9,115,721			\$ 9,167,395	\$ 51,674
8 Deficiency			\$ 4,441,722			\$ 4,441,722	\$ (0)
9 Income Tax Effect	1.3714		1,649,755			1,649,755	(0)
10 Revenue Deficiency			\$ 6,091,477			\$ 6,091,476	\$ (0)