

Northern States Power Company, a Minnesota Corporation
 Electric Utility - South Dakota
 Test Year Ending December 31, 2011
VOLTAGE DISCOUNT ANALYSIS - DEMAND (\$/kW)

Docket No. EL12-_____
 Exhibit No. ____ (MAP-1)
 Schedule 5
 Page 1 of 2

Includes losses to indicate additional billing kW low voltage customers would have at higher voltage.

	Secondary Costs	Primary Costs	
	Lines & Transformers	Lines & Transformers	Distribution Substation
1. Revenue Requirement (\$000s): (CCOSS; p. 2; lines 34,33,32)	\$1,676.238	\$1,972.422	\$2,158.011
2. Billing kW (Workpaper attached)			
Secondary Voltage kW	2,586,093	2,586,093	2,586,093
Loss Factor	1.0000	1.0220	1.0639
Secondary With Losses	2,586,093	2,642,922	2,751,222
Primary Voltage kW		598,213	598,213
Loss Factor		1.0000	1.0410
Primary With Losses		598,213	622,726
Transmission Transformed Voltage kW			0
Total kW (Metered Sales + Losses)	2,586,093	3,241,135	3,373,948
3. Rev Req / kW (Line 1 / Line 2)	\$0.6482	\$0.6086	\$0.6396
4. Cumulative Rev Req / kW	\$0.65	\$1.26	\$1.90
5. Present Individual Discounts	\$0.70	\$0.70	\$0.60
6. Cumulative Present Discount	\$0.70	\$1.40	\$2.00
7. Midpoint-Pres and Rev Req (Lines 4+ 6 /2)	\$0.67	\$1.33	\$1.95
8. Cumulative Proposed Discount (Rounded to nearest \$0.05)	\$0.70	\$1.40	\$2.00

Demand Component	Loss Factors
Secondary Lines	0.9170
Primary Lines	0.9371
Primary Substations	0.9755
Transmission	0.9788

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	[1] E8760	[2] Percent	[3] Energy	[4] Cost-Based	[5] Proposed	[6] Present	
<u>Voltage</u>	<u>Losses</u>	<u>Difference</u>	<u>Charge</u>	<u>Discount</u>	<u>Discount</u>	<u>Discount</u>	
Secondary	7.28%	0.00%	5.761	0.0000	0.000	0.000	¢ per kWh
Primary	5.33%	1.94%	5.649	0.1120	0.110	0.100	¢ per kWh
T Transformed	2.58%	4.69%	5.491	0.2703	0.270	0.250	¢ per kWh
Transmission	2.25%	5.03%	5.471	0.2896	0.290	0.270	¢ per kWh