

Electric Operations - State of South Dakota

COGENERATION AND SMALL POWER PRODUCTION FILING

Derivation of Metering Costs - State of South Dakota

**OCCASIONAL DELIVERY ENERGY SERVICE**

<b>STANDARD KWH METER</b>	<b>Single Phase</b>
(1) Installed Cost	\$102.78
(2) L.A.R.R.	11.10%
(3) Levelized Cost (1)*(2)	\$11.41
(4) Accounting Expenses \$/Cust/Yr	\$26.24
(5) Total Annual (3)+(4)	\$37.65
(6) Total Monthly (5)/12	\$3.14
	Proposed <input type="text" value="\$3.75"/>
	Current <input type="text" value="\$3.75"/>

**TIME OF DELIVERY ENERGY SERVICE**

<b>TOD KW/KWH METER</b>	<b>Single Phase</b>
(7) Installed Cost	\$275.34
(8) Levelized Cost (7)*(2)	\$30.56
(9) Total Annual (8)+(4)	\$56.80
(10) Total Monthly	\$4.73
	Proposed <input type="text" value="\$4.75"/>
	Current <input type="text" value="\$4.75"/>

Source:

(1)(7) Data provided by NSP Metering Dept.

(2) Based on cost of capital on page 4

(4) Based on NSP ECCOSS Workpapers (Docket No. EL09-009).

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Derivation of Energy Payments - State of South Dakota

**OCCASIONAL DELIVERY ENERGY SERVICE**

	<b>Annual Average</b>
(1) Estimated System Average Incremental Energy Costs for 2011 (¢/kWh)	2.98
(2) Energy Loss Factors	0.9241
(3) Estimated System Average Incremental Energy Costs Adjusted for Losses (1)/(2)	3.22

**TIME OF DAY PURCHASE SERVICE**

	<b>Annual On Peak</b>	<b>Annual Off Peak</b>
(1) Estimated System Average Incremental Energy Costs for 2011 (¢/kWh)	4.05	2.38
(2) Energy Loss Factors	0.9170	0.9279
(3) Estimated System Average Incremental Energy Costs Adjusted for Losses(1)/(2)	4.42	2.56

Sources:

Incremental Energy Cost Data provided by Xcel Energy's Risk Management department.

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## Calculation of Net Annual Avoided Capacity Costs

(1) Completed Cost of Planned C.T. Unit (2011\$)	\$696 /kW
(2) Inflation Net of Technical Progress	1.92%
(3) Average Service Life	35 Years
(4) Discount Rate (After Tax)	7.26%
Calculation of Marginal Capital Carry Charge Rate	
(5) Present Value of Revenue Requirements	\$960 /kW
(6) Annuity Factor Adjustment for Inflation **	0.06412
(7) Present Value of Revenue Requirements Adjusted for Inflation (5)*(6)	\$61.59
(8) Marginal Capital Carrying Charge Rate (7)/(1)	0.08849
(9) First Year Revenue Requirement (1)*(8)	\$61.59 /kW (2011 \$)
(10) Present Value at 7.26% for 0 years	\$61.59 /kW
(11) Present Value of Average Annual Fuel Savings	\$0.00 /kW
(12) Annual Avoided Capacity Cost (10)-(11)	\$61.59 /kW
(13) Adjusted for 15% Reserve Margin (12)*1.15	\$70.82 /kW
(14) Plus \$2.01/kW Fixed O & M (2011 \$) (13)+2.01	\$72.83 /kW
(15) Adjusted for Losses (14)/0.9041	\$80.56 /kW
(16) NET ANNUAL AVOIDED CAPACITY COST	\$80.56 /kW
(17) Net Annual Avoided Capacity Cost Average Over All Hours (16)*100/8760	0.92 cents/kWh

$$** AC = K*(r-j)*(1+j)^{(t-1)}*[1/(1-(1+j)^n/(1+r)^n)]$$

Where AC = Annual Charge in year t

t = Year (=1)

K = Total Present Value Cost of Original Investment

r = Discount Rate (Overall Marginal Cost of Capital) (7.26%)

j = Inflation Rate Net of Technology Progress (1.92%)

n = Expected Service Life of Investment ( 35 Years)

**PUBLIC DOCUMENT**  
**CONFIDENTIAL INFORMATION HAS BEEN EXCISED**

Northern States Power Company, a Minnesota Corporation

Attachment 1

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**COGENERATION AND SMALL POWER PRODUCTION FILING**

**Marginal Cost of Capital**

<i>(Before Tax)</i>	Capitalization Ratio (%) *	Cost (%)	Weighted (%)
Debt			
Preferred Equity			
Common Equity		*	
<b>Weighted Average</b>			<b>8.320%</b>

<i>(After Tax)</i>	Capitalization Ratio (%) *	Cost (%)	Weighted (%)
Debt			
Preferred Equity			
Common Equity		*	
<b>Weighted Average</b>			<b>7.258%</b>

\* Reference SD Commission approval of settlement in Docket No. EL09-009.

Source:

Information based on May 11, 2011 Corporate Assumptions (Confidential)