



MONTANA-DAKOTA UTILITIES CO.
ADVOCACY STAFF – MARC, LLC
DATA REQUEST DATED AUGUST 23, 2010
CASE NO. PU-10-124

NDPSC-DR-058 Provide rationale and present value calculations supporting MDU's choice to collect annual production tax credits over 10 years (Statement M, Page 44) rather than an upfront 30% tax credit from the federal treasury.

Response:

Montana-Dakota chose to collect production tax credits over 10 years because this option provided incremental savings on a net present value basis over the Federal energy tax credit option. As shown on Attachment A, the net present value of cash flows and the required internal rate of return is less utilizing the production tax credit option than the net present value of cash flows and the required internal rate of return under the tax credit option provided in Attachment B.

NORTH DAKOTA WIND GENERATION PROJECT - OWNED BY NDU
PROJECTED INCOME STATEMENTS
(000)

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
REVENUES										
Renewable Energy Credits (RECs/green tags) \$	42,542	42,542	42,542	42,542	42,542	42,542	42,542	42,542	42,542	42,542
Total Costs	709,919	757,727	793,951	812,843	832,302	820,374	842,742	865,780	889,509	913,951
GROSS PROFIT	(697,377)	(715,185)	(751,409)	(770,301)	(789,760)	(777,832)	(800,200)	(823,238)	(846,967)	(871,409)
General & Administrative Costs										
Property Taxes	290,605	275,119	259,634	244,148	228,662	213,176	197,690	182,204	166,718	151,233
	290,605	275,119	259,634	244,148	228,662	213,176	197,690	182,204	166,718	151,233
OPERATING INCOME (EBITDA)	(987,982)	(990,304)	(1,011,042)	(1,014,449)	(1,018,422)	(991,008)	(997,890)	(1,005,442)	(1,013,686)	(1,022,641)
Interest Expense	1,368,074	1,164,665	977,178	846,166	736,337	656,125	607,682	561,391	515,100	468,810
Depreciation	2,175,469	2,175,469	2,175,469	2,175,469	2,175,469	2,175,469	2,175,469	2,175,469	2,175,469	2,175,469
Pre-Tax Income	(4,531,526)	(4,330,439)	(4,163,689)	(4,036,084)	(3,930,228)	(3,822,603)	(3,781,040)	(3,742,302)	(3,704,255)	(3,666,920)
Federal Production Tax Credit	(1,358,700)	(1,423,400)	(1,423,400)	(1,488,100)	(1,488,100)	(1,552,800)	(1,552,800)	(1,617,500)	(1,617,500)	(1,682,200)
Income Taxes	(1,774,545)	(1,695,800)	(1,630,501)	(1,580,531)	(1,539,077)	(1,496,931)	(1,480,655)	(1,465,486)	(1,450,586)	(1,435,966)
ND ITC Amortization	(40,435)	(82,998)	(127,926)	(175,497)	(226,041)	(226,041)	(226,041)	(226,041)	(226,041)	(226,041)
Earnings after Interest	(1,357,846)	(1,128,240)	(981,862)	(791,956)	(677,010)	(546,831)	(521,545)	(433,276)	(410,129)	(332,713)
Earnings before Interest	(525,509)	(419,658)	(387,347)	(277,149)	(229,023)	(147,645)	(151,831)	(91,725)	(96,742)	(37,490)
Avg Equity Balance	20,746,171	17,661,574	14,818,419	12,831,693	11,166,187	9,049,818	9,215,192	8,513,218	7,811,243	7,109,269
Return on Equity - Pre-tax	(3,921,449)	(3,338,398)	(2,800,983)	(2,425,451)	(2,110,637)	(1,880,718)	(1,741,859)	(1,609,172)	(1,476,484)	(1,343,797)
Pre-Tax Income	(4,531,526)	(4,330,439)	(4,163,689)	(4,036,084)	(3,930,228)	(3,822,603)	(3,781,040)	(3,742,302)	(3,704,255)	(3,666,920)
Less: Federal Production Tax Credit (grossed up)	2,333,235	2,339,579	2,339,579	2,445,924	2,445,924	2,552,268	2,552,268	2,658,613	2,658,613	2,764,957
Total Revenue Requirement	(6,219,740)	(5,329,257)	(4,625,093)	(4,015,612)	(3,594,304)	(3,151,053)	(2,970,632)	(2,692,661)	(2,522,120)	(2,245,760)
Discounted at 9.20%										
Per kWh cost	\$ 0.096	\$ 0.082	\$ 0.071	\$ 0.062	\$ 0.056	\$ 0.049	\$ 0.046	\$ 0.042	\$ 0.039	\$ 0.035
ND ITC Amortization - Below the Line	40,435	82,998	127,926	175,497	226,041	226,041	226,041	226,041	226,041	226,041
Total kWh Generated / PTC	64,700,000	64,700,000	64,700,000	64,700,000	64,700,000	64,700,000	64,700,000	64,700,000	64,700,000	64,700,000

Net Present Value of Free Cash Flow Method	
Hurdle Rate:	Equity (After tax) 11.50%
N.P.V. of Cash Flows	Equity (Pre-tax) 18.90%
PV of Book Value (End of Contract)	\$30,150,907
Enterprise Value	0
Book value Currently	\$30,150,907
Net difference	\$(43,000,000)
	(\$12,849,093)
IRR	
Calculated IRR	9.09%

NORTH DAKOTA WIND GENERATION PROJECT - OWNED BY MDU
PROJECTED INCOME STATEMENTS

(000)

Projection with Federal Energy Tax Credit

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
REVENUES										
Renewable Energy Credits (RECs/green tags)	\$ 42,542	\$ 42,542	\$ 42,542	\$ 42,542	\$ 42,542	\$ 42,542	\$ 42,542	\$ 42,542	\$ 42,542	\$ 42,542
Total Costs	739,919	757,727	793,951	812,843	832,302	820,374	842,742	865,780	889,509	913,951
GROSS PROFIT	(697,377)	(715,185)	(751,409)	(770,301)	(789,760)	(777,832)	(800,200)	(823,238)	(846,967)	(871,409)
General & Administrative Costs										
Property Taxes	290,605	275,119	259,634	244,148	228,662	213,176	197,690	182,204	166,718	151,233
	290,605	275,119	259,634	244,148	228,662	213,176	197,690	182,204	166,718	151,233
OPERATING INCOME (EBITDA)	(987,982)	(990,304)	(1,011,042)	(1,014,449)	(1,018,422)	(991,008)	(997,890)	(1,005,442)	(1,013,686)	(1,022,641)
Interest Expense	1,174,296	786,516	613,312	489,665	385,729	309,867	274,738	253,110	231,482	209,854
Depreciation	2,175,469	2,175,469	2,175,469	2,175,469	2,175,469	2,175,469	2,175,469	2,175,469	2,175,469	2,175,469
PRE-TAX INCOME	(4,337,747)	(3,952,289)	(3,799,824)	(3,679,603)	(3,579,620)	(3,476,345)	(3,448,097)	(3,434,021)	(3,420,637)	(3,407,964)
Income Taxes	(1,698,662)	(1,547,717)	(1,488,011)	(1,440,933)	(1,401,779)	(1,361,337)	(1,350,275)	(1,344,763)	(1,339,521)	(1,334,559)
Fed & ND Tax Credit Amortizations	(540,710)	(583,273)	(628,201)	(675,772)	(726,316)	(726,316)	(726,316)	(726,316)	(726,316)	(726,316)
Earnings after Interest	(2,098,375)	(1,821,299)	(1,683,612)	(1,562,898)	(1,451,526)	(1,388,692)	(1,371,507)	(1,362,943)	(1,354,800)	(1,347,089)
Earnings before Interest	(1,383,934)	(1,342,783)	(1,310,473)	(1,264,974)	(1,216,848)	(1,200,169)	(1,204,350)	(1,208,951)	(1,213,907)	(1,219,414)
Return On Equity	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
Return On Investment	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
Avg Equity Balance	17,807,617	11,927,127	9,300,581	7,425,832	5,849,395	4,698,982	4,166,268	3,838,288	3,510,308	3,182,328
Return on Equity - Pre-tax	(3,366,002)	(2,254,470)	(1,757,998)	(1,403,634)	(1,105,655)	(868,203)	(787,510)	(725,515)	(663,520)	(601,525)
Less: Federal Production Tax Credit (grossed up)										
Total Revenue Requirement	(43,181,886)	(6,206,760)	(5,557,823)	(5,083,236)	(4,685,275)	(4,364,548)	(4,235,607)	(4,159,536)	(4,084,156)	(4,009,489)
Discounted at 9.20%										
Per kWh cost	\$ 0.119	\$ 0.096	\$ 0.086	\$ 0.079	\$ 0.072	\$ 0.067	\$ 0.065	\$ 0.064	\$ 0.063	\$ 0.062
ITC Amortization - Below the Line	540,710	583,273	628,201	675,772	726,316	726,316	726,316	726,316	726,316	726,316
Total kWh Generated	64,700,000									

Net Present Value of Free Cash Flows Method

Hurdle Rate:	11.50%
N.P.V. of Cash Flows	18.90%
PV of Book Value (End of Contract)	\$33,745,595
Enterprise Value	(0)
Book value Currently	\$ (43,000,000)
Net difference	\$(9,254,405)

IRR
Calculated IRR

9.36%

